ARCADIS MALCOLM PIRNIE
Infrastructure · Water · Environment · Buildings

Imagine the result

IMA

3d Inf Div (Mech)

U.S. Army
Environmental Command

And

Fort Stewart Directorate of Public Works Under Contract Number W91ZLK-05-D-0015 D.O. 0003

Final Compliance Status Report HAA-17 – Installation-Wide Groundwater including TCE Groundwater Contamination

Hunter Army Airfield
Savannah, Georgia
HSI Site No. 10903

April 2011

DOCUMENT 17

ARCADIS MALCOLM PIRNIE

Final
Compliance Status Report
HAA-17 – Installation-Wide Groundwater including TCE Groundwater Contamination

Eric Killenbeck
Senior Geologist

C. Scott Bostian, PE
Senior Engineer

Charles A. Bertz, PE
Senior Project Manager

Prepared for:
U.S. Army Environmental Command

Prepared by:
ARCADIS
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919.854.1282
Fax 919.854.5448

Our Ref.:
GP08HAFS.H17C.DPCSR

Date:
April 2011

ARCADIS MALCOLM PIRNIE

Table of Contents

Acronyms viii

Executive Summary x

1. Qualified Groundwater Scientist Certification 1-1

2. Compliance Status Certification 2-1

3. Introduction 3-1

4. Site Background 4-1

4.1 Regulatory Status 4-1

4.2 Site Description and Setting 4-1

4.2.1 Site Description 4-1

4.2.1.1 Former UST 25/26 4-1

4.2.1.2 Purge Facility 4-2

4.2.1.3 Building 1290 4-2

4.2.1.4 Other Facilities 4-2

4.2.2 Regional Geology/Hydrogeology 4-3

4.2.3 Hunter Army Airfield Depositional Model 4-4

5. Previous Investigations Conducted at HAA-17 5-1

5.1 UST 25 and 26 Closure and CAP – Part A Investigation (1998) 5-1

5.2 UST 25 and 26 CAP – Part B Investigation (1999) 5-1

5.3 UST 25 and 26 Supplemental CAP – Part B Investigation (2000 – 2001) 5-1

5.4 UST 25 and 26 Supplemental CAP – Part B Investigation (2001 – 2002) 5-3

5.5 UST 25 and 26 Vertical Profile Investigation (2003) 5-3

5.6 UST Removal (2006) 5-4

5.7 UST 25 and 26 Monitoring (2003 – 2007) 5-4

5.8 UST 25 and 26 Interim Remedial Action (2007) 5-4

5.9 Purge Facility Investigation (2002 and 2006) 5-4

5.9.1 Sampling Data 5-4

5.9.2 Background Data 5-6

Table of Contents

5.10 Building 1290 Investigation (2007 – 2008) 5-6

6. Site-Wide Investigation Activities (2009 – 2010) 6-1

6.1 Water-Level Measurements 6-2

6.2 Slug Testing 6-2

6.3 Baseline Sampling of Monitor Wells 6-2

6.4 Membrane Interface Probe 6-3

6.5 Temporary Borings 6-4

6.6 Groundwater Monitor Wells 6-5

6.7 Sampling of Newly Installed Monitor Wells 6-6

6.8 Piezometer Installation/Sampling of Surface Water and Sediment 6-6

6.9 Vapor Intrusion – Indoor Air Pathway 6-7

7. Site-Wide Investigation Results 7-1

7.1 Hydrogeology/Geology 7-1

7.1.1 Geologic Conditions 7-1

7.1.2 Hydrogeologic Conditions 7-2

7.1.3 Surface Water Flow 7-4

7.2 Contaminant Impacts 7-4

7.2.1 VOC Impacts 7-4

7.2.1.1 Soil Impacts 7-4

7.2.1.2 Groundwater Impacts 7-6

7.2.1.3 Surface Water and Sediment Sampling Results 7-9

7.2.2 Metals Impacts 7-10

8. Human Health Risk Assessment 8-1

8.1 Potential Receptors 8-1

8.2 Exposure Assessment 8-2

8.2.1 Soil Exposure 8-2

8.2.2 Groundwater Exposure 8-3

Table of Contents

8.3 Toxicity Assessment 8-3

8.4 Risk Reduction Standards 8-3

8.4.1 Soil Risk Reduction Standards 8-4

8.4.2 Groundwater Risk Reduction Standards 8-4

8.4.2.1 Residential Risk Reduction Standards 8-4

8.4.2.2 Nonresidential Risk Reduction Standards 8-5

8.4.3 Sediment 8-6

8.4.4 Surface Water 8-6

8.5 Vapor Intrusion Evaluation 8-6

8.5.1 Vapor Intrusion Modeling 8-7

8.5.2 Current Groundwater 8-8

8.6 Summary and Conclusions 8-8

9. Ecological Risk Assessment 9-1

9.1 Introduction 9-1

9.2 Ecological Risk Assessment Dataset Evaluation 9-2

9.3 Screening-Level Ecological Risk Assessment 9-2

9.3.1 Screening-Level Problem Formulation 9-3

9.3.1.1 Environmental Setting 9-3

9.3.1.2 Toxicological Profiles 9-4

9.3.1.3 Media of Concern 9-6

9.3.1.4 Potentially Exposed Receptors 9-6

9.3.1.5 Potentially Complete Exposure Pathways 9-7

9.3.1.6 Assessment and Measurement Endpoints 9-7

9.3.2 Screening-Level Ecological Effects Evaluation 9-9

9.3.3 Screening-Level Exposure Estimate and Risk Calculation 9-9

9.3.4 Scientific Management Decision Point 9-10

9.4 Baseline Ecological Risk Assessment 9-10

9.4.1 Refinement of COPECs 9-11

9.4.1.1 Comparison to Background 9-12

9.4.1.2 Exposure Point Concentrations 9-12

9.4.1.3 Alternative Screening Values 9-12

9.4.2 Risk Characterization 9-12

9.4.3 Uncertainties 9-13

9.4.4 Summary and Conclusions 9-13

10. Public Involvement 10-1

11. Conclusions and Conceptual Site Model 11-1

12. References 12-1

Tables

Table 5-1 Well Construction Summary

Table 5-2 Groundwater Analyses, UST 25 and 26 CAP–Part B Investigations

Table 5-3 Soil Analyses, Purge Facility Investigation

Table 5-4 Groundwater Analyses, Purge Facility Investigation

Table 5-5 Soil Analyses, Building 1290 Investigation

Table 5-6 Groundwater Analyses, Building 1290 Investigation

Table 6-1 Groundwater Elevations

Table 7-1 Monitor Well Pair Groundwater Hydraulic Head Comparison

Table 7-2 Groundwater Velocity

Table 7-3 Soil Analyses – ARCADIS 2009/2010 Additional DPT Investigation

Table 7-4 Groundwater Analytical Results – ARCADIS 2009 DPT Investigation

Table 7-5 Groundwater Analytical Results – Shallow Permanent Monitor Wells

Table 7-6 Groundwater Analytical Results – Deep Permanent Monitor Wells

Table 8-1 Risk Reduction Standard Equations for Exposure to Soil

Table 8-2 Risk Reduction Standard Equations for Exposure to Groundwater

Table 8-3 Toxicity Values

Table 8-4 Physical-Chemical Properties of the Detected Soil and Groundwater Constituents

Table 8-5 Comparison of Maximum Detected Soil Concentrations to Type 1 Risk Reduction Standards

Table 8-6 Comparison of Maximum Detected Groundwater Concentrations to Types 1 and 2 Risk Reduction Standards

Table 8-7 Risk Reduction Standards for Groundwater Based on Residential Adult (Type 2) Exposure

Table 8-8 Risk Reduction Standards for Groundwater Based on Residential Child (Type 2) Exposure

Table 8-9 Comparison of Maximum Detected Groundwater Concentrations to Types 3 and 4 Risk Reduction Standards

Table 8-10 Risk Reduction Standards for Groundwater Based on Industrial (Type 4) Exposure

Table 8-11 Comparison of Maximum Sediment Concentrations to Type 1 Risk Reduction Standards

Table 8-12 Comparison of Maximum Surface Water Concentrations to Georgia In-Stream Standards

Table 8-13 Current Groundwater Risk Assessment Dataset

Table 8-14 Summary of Input Parameters for Current Groundwater – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Resident Receptor

Table 8-15 Summary of Input Parameters – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Resident Receptor

Table 8-16 Summary of Results – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Resident Receptor

Table 8-17 Summary of Input Parameters for Current Groundwater – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Site Worker Receptor

Table 8-18 Summary of Input Parameters – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Site Worker Receptor

Table 8-19 Summary of Results – USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model – Site Worker Receptor

Table 9-1 Surface Soil (0-1 ft bgs) Risk Assessment Dataset

Table 9-2 Federal- and State-Listed and Candidate Species of Potential Occurrence

Table 9-3 Screening Level – Constituents of Potential Ecological Concern in Surface Soil

Table 9-4 Baseline Level – Constituents of Potential Ecological Concern in Surface Soil

Table 9-5 Uncertainties in the Ecological Risk Assessment

Figures

Figure 3-1 Site Location Map

Figure 4-1 Site Layout Map

Figure 5-1 Site Map with MonitorWell Locations

Figure 5-2 Site Map with Soil Sample Locations

Figure 6-1 Membrane Interface Probe Locations (December 2009)

Figure 7-1 Geologic Cross-Section A-A' Along Topographic Strike with Trichloroethene Isopleths

Figure 7-2 Shallow Potentiometric Surface Map (June 2010)

Figure 7-3 Deep Potentiometric Surface Map (June 2010)

Figure 7-4 Membrane Interface Probe ECD Response

Figure 7-5 TCE Concentration in Soil (December 2009)

Figure 7-6 Concentrations of VOCs Detected in Soil (2006–2009)

Figure 7-7 Concentrations of VOCs Detected in Sitewide Groundwater

Figure 7-8 Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater

Figure 7-9 Estimated Extent of TCE Impact in Groundwater (2010)

Figure 7-10 Concentrations of Metals Detected in Groundwater

Figure 9-1 Eight-Step Ecological Risk Assessment Process

Figure 9-2 Expanded Eight-Step Ecological Risk Assessment Process

Figure 9-3 Conceptual Site Model for Ecological Receptors

Appendices

A Slug Test Analysis Reports

B MIP Logs

Table of Contents

C Laboratory Analytical Reports

D Monitor Well Installation Logs

E Lithologic Boring Logs

F Groundwater Field Sampling Sheets

G NFA Letter for UST 25/26

H Background Data

I Sampling and Analysis Procedures

J Pond 35 Information

K Photo Log

L CSR Checklist

M Historical Site Use Data

Acronyms

ARCADIS	ARCADIS U.S., Inc.
ASV	alternative screening value
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
CAP	Corrective Action Plan
COC	constituent of concern
COPEC	constituent of potential ecological concern
CSM	Conceptual Site Model
CSR	Compliance Status Report
DCA	dichloroethane
DCE	dichloroethene
DO	dissolved oxygen
DOT	Department of Transportation
DPT	direct push technology
ECD	electron capture detector
ELCR	excess lifetime cancer risk
EPC	exposure point concentration
EPD	Environmental Protection Division
ERA	Ecological Risk Assessment
ESV	ecotoxicity screening value
FID	flame ionization detector
HAAF	Hunter Army Airfield
HI	hazard index
HQ	hazard quotient
HSI	Hazardous Sites Inventory
HSRA	Hazardous Site Response Act
IDW	investigation-derived waste
IRA	Interim Remedial Action
kg	kilogram
L/day	liter per day
MIP	Membrane Interface Probe
MCL	maximum contaminant level

mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
µg/L	micrograms per liter
MIP	membrane interface probe
msl	mean sea level
NTU	Nephelometric Turbidity Unit
ORP	oxidation-reduction potential
PAH	polyaromatic hydrocarbon
PID	photo ionization detector
PQL	practical quantitation limit
PVC	polyvinyl chloride
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RRS	risk reduction standard
RSL	Regional Screening Level
SAC	Strategic Air Command
SAIC	Science Applications International Corporation
SESD	Science and Ecosystem Support Division
SI	Site Investigation
SLERA	Screening Level Ecological Risk Assessment
SMDP	scientific management decision point
SVOC	semivolatile organic compound
TCE	trichloroethene
UCL	upper confidence limit
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
USTMP	Underground Storage Tank Management Program
VOC	volatile organic compound

Executive Summary

Hunter Army Airfield (HAAF) is an active military installation located in Savannah, Georgia, encompassing areas of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. The U.S. Army Environmental Command (USAEC) retained ARCADIS (ARCADIS U.S., Inc.) on behalf of HAAF to investigate soil and groundwater associated with the impacted area designated as site HAA-17. A Hazardous Site Response Act (HSRA) Release Notification/Reporting Form was submitted to the Georgia Environmental Protection Division (EPD) on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as Hazardous Sites Inventory (HSI) Site No. 10903. This Compliance Status Report (CSR) has been generated based on historical datasets as well as data generated in a recent investigation conducted from November 2009 through June 2010. Upon approval of the CSR, a Corrective Action Plan (CAP) will be developed.

This CSR describes the investigation activities completed to delineate the potential source(s) and the extent of volatile organic compound (VOC) impacts with specific focus on trichloroethene (TCE) and its degradation compounds. Metals impacts were also investigated in an area where previous data had indicated a potential impact. Initial investigations in the area were related to petroleum impacts associated with underground storage tanks (USTs) 25 and 26. During these activities, in addition to the petroleum impacts, TCE and other chlorinated compound impacts were identified in groundwater. The extent of petroleum-impacted groundwater was delineated in accordance with the requirements of the Georgia EPD Underground Storage Tank Management Program (USTMP) (Facility ID No. 9-025008). In a letter dated August 19, 2008, the Georgia EPD USTMP stated that no further action is required for the petroleum release.

Investigations and Summary of Results

Investigations related to the TCE impacts were conducted from 1998 through 2007 at the former UST 25 and 26 area and surrounding areas. These investigations included monitor well installation, sampling through temporary direct push technology (DPT) borings, and a geophysical survey. The tentatively identified TCE detections from 1998 were confirmed when TCE was detected in groundwater during the UST investigation in 1999. In the investigation of TCE impacts in groundwater associated with former USTs 25 and 26, TCE was detected at a maximum of 7,730 micrograms per liter (µg/L) in analyses from temporary boring AF-52 in December 2000. East of the canal adjacent to the former UST area, TCE was detected at 604 µg/L in a DPT groundwater sample from location AF-51 (15 to 20 feet below ground surface [bgs]) in 2000. TCE

was detected in 2002 at 807 µg/L in shallow monitor well AF-72 (screened from 2.5 to 12.5 feet bgs), also located east of the former UST 25 and 26 location. Tank excavation and removal activities were performed in April 2006. In 2007, an Interim Remedial Action (IRA) was implemented to remove two wells and the contaminated soil/free product around them. A 6-foot by 6-foot area around each well was excavated to a depth of 9.5 feet.

As part of the investigation of TCE detected in the former UST area, an investigation of the purge facility, located up- and side-gradient of the former UST area, was conducted from May to July 2006. Both soil and groundwater samples were collected. One deep monitor well, screened from 40 to 45 feet bgs, and four shallow wells, each screened from 2.3 to 12.3 feet bgs, were installed. Soil samples were collected from three locations along a surface drainage pathway feature and from the five monitor well borings. During the purge facility investigation in 2006, 34.8 µg/L of TCE was detected in groundwater from the deep monitoring well. Low concentrations of petroleum hydrocarbons were detected in the shallow wells.

An investigation related to Building 1290, where solvents had been used for cleaning in the past, was conducted in 2007 and 2008. The investigation included areas east of Building 1290 extending to the former UST area and locations east of the drainage canal. The investigation included membrane interface probe (MIP) and DPT sampling of groundwater. Twenty-one wells that were installed in May 2007 and two existing wells were sampled in July 2007. The analyses indicated that there were no impacts around Building 1290 and that the highest TCE concentrations were in the former UST 25 and 26 area at approximately 20 to 30 feet bgs.

Building on the previous investigations, the following activities were conducted from November 2009 through June 2010:

- Water level measurements were collected from monitor wells in February 2010 and after new well installation in May and June 2010.
- Slug tests were performed in seven selected wells in December 2009 to determine hydraulic conductivities in the shallow and deep portions of the upper aquifer.
- Thirty-six existing monitor wells were sampled in February 2010 to confirm previous data and provide additional information on potential source areas and downgradient vertical and horizontal extents.
- The vertical and horizontal profile of VOC contamination in soil and groundwater in suspected source areas around the former UST 25/26 area was investigated using MIP technology. Borings were utilized for the collection of soil and groundwater samples at locations identified by MIP data.

- Additional borings were installed for soil and groundwater sampling using DPT to evaluate contaminant distribution and extent.
- Nine groundwater monitor wells were installed and sampled in April and May 2010 to determine the extent of impacted groundwater.
- Two piezometers were installed in June 2010 to evaluate the relationship between groundwater and surface water flow near the drainage canals southeast of the former USTs and adjacent to Lightning Road.

A consistent clay layer was encountered site-wide between 40 and 45 feet bgs (shallower near canal). The layer is the top of the confining unit above the underlying Floridan aquifer, encountered between 200 and 800 feet bgs. In addition, thinner, silty clays were encountered above 40 ft bgs in some borings located to the east of the runways in the area of former USTs 25 and 26. These clay layers appear to act as semi-confining layers in some areas, separating the shallow and deep portions of the upper aquifer. These layers were not observed in borings completed at the purge facility or at the former dry cleaning facility.

Groundwater flow directions based on the 2010 events appear consistent with previous data. A groundwater divide is evident in both shallow and deep groundwater between Building 1290 and the former purge facility. The flow direction of groundwater in the Building 1290 area appears to be in a westerly direction toward the taxiways. Groundwater in the shallow and deep zones in the central and eastern portions of the HAA-17 area follows the topographic gradient of the site and flows to the southeast toward the former location of USTs 25 and 26 and the canal. Deep zone groundwater continues to flow east under the drainage canal. Data indicate that the drainage ditch is a discharge point for shallow groundwater and that surface water levels mimic shallow groundwater conditions. Artesian conditions exist in some wells proximate to the canal.

For those wells analyzed within the shallow groundwater zone (AF-08, AF-20, and AF-24), hydraulic conductivities ranged from 0.57 to 0.75 feet/day. For those wells analyzed within the deeper groundwater zone (AF-53, AF-54, AF-55, and AF-57), hydraulic conductivities ranged from 0.57 to 63 feet/day.

A MIP investigation was conducted in the former UST area in November 2009. The areas where the highest concentrations had been identified in previous investigations were targeted for initial MIP points. Ten MIP borings were installed in the former UST area. The largest electron capture detector (ECD) responses were in the 30- to 40-foot interval at three locations near the southwest corner of Building 1345. Temporary borings for soil sampling were installed at locations and depths where MIP technology identified potential areas of concern. Temporary borings were also installed at other locations in the former UST area and at outlying locations where historical results

warranted further investigation. TCE was detected in seven saturated soil samples but not at concentrations indicative of a source. The highest TCE concentrations were detected in soil samples from boring location H17-AF-101 at 0.94 milligrams per kilogram (mg/kg) (24 to 25 feet bgs) and 0.81 mg/kg (34 to 35 feet bgs). Similar concentrations were detected in soil samples from two other locations, which were also west of Building 1345 in the former UST area. The remaining concentrations detected in saturated soils ranged from below laboratory detection limits to 0.81 mg/kg. Soil samples taken at the former dry cleaner and the purge facility did not contain chlorinated VOCs indicative of a source or significant impacts.

During the groundwater investigation, there were no significant detections of VOCs in DPT samples taken in the UST 25/26 area in December 2009. All DPT groundwater samples taken in 2009 were from 40 to 45 feet bgs for vertical delineation. Previous investigations had resulted in detections of VOCs, specifically TCE, in the former UST area and east of the canal. TCE was detected predominantly in samples 5 to 15 feet bgs. Two monitor well pairs (H17-MW-21S/D and 22S/D) were installed farther east along Perimeter Road to provide delineation of the eastern extent of impacts. VOCs were not detected in any of the samples from the four monitor wells, thereby providing delineation of the extent of VOC impacts in the eastern portion of the investigation area.

Monitor well H17-MW-19S (screened from 5 to 15 feet bgs) was installed on the east side of the canal south of the former UST 25/26 area to provide delineation of the southern extent of VOCs in the shallow interval. VOCs were not detected in samples from this well. Results from borings and monitor wells in the same area indicated that there were no VOC impacts in the deeper interval.

Minor TCE impacts were observed in the purge facility area during the 2006 investigation. Low levels of petroleum hydrocarbons had been detected in samples from shallow borings and monitor wells. TCE and its degradation products were detected in the deeper interval (40 to 45 feet bgs). In subsequent sampling in 2009 and 2010, TCE and its degradation products were again detected in the 40- to 45-foot bgs interval but at lower concentrations. The highest TCE concentration was 14 µg/L in deep well AT-MW-01.

Monitor wells previously installed and sampled as part of the Building 1290 investigation were sampled again in 2010. VOCs were not detected in samples from the monitor wells around the building or in monitor wells west, north, and south of the building, thereby providing delineation of the extent of VOC impacts in the western portion of the investigation area. These results also confirmed that Building 1290 is not a source of TCE impacts at the site.

In the area of the former dry cleaner east of Building 1290, TCE and 1,1-dichloroethene (1,1-DCE) had been detected at 1.08 and 7.77 µg/L, respectively, in 1290-MW-8D during the investigation in 2007. During the same investigation, 1,1-DCE had been detected at 6.01 µg/L in 1290-MW-8S. TCE was not detected and 1,1-DCE was detected at 5.1 µg/L when well 1290-MW-8D was sampled in 2010. Chlorinated VOCs were not detected in samples taken from shallow well 1290-MW-8S in 2010. Groundwater samples were also taken in the area through temporary borings in 2006 and 2010. A DPT sample taken in 2006 south of the former dry cleaner location near the weapons cleaning facility at a depth of 44 to 46 feet bgs (1290-DPT-03) contained 2.5 µg/L of TCE. Samples were also taken with three temporary borings in the area in 2010. Screening from surface to total depth with a photo ionization detector (PID) did not result in any VOC detections. Because of the detections in 2006, samples were taken from 41 to 45 feet bgs at each boring location for laboratory analysis. TCE or another chlorinated VOC was detected at low concentrations in all three samples. TCE was detected in one sample at 1.1 µg/L. The highest chlorinated VOC concentration was 7.1 µg/L of 1,1-dichloroethane (1,1-DCA) in H17-FD2.

Monitor well pair H17-MW-17S/D was installed in 2010 to delineate the northern extent of the investigation area. Chlorinated VOCs were not detected in deep well H17-MW-17D. The only detection was 1.9 µg/L of carbon disulfide. In shallow well H17-MW-17S, the only VOC detected was chloroethane at 0.69 µg/L.

Additional investigation was conducted around the purge facility to evaluate chromium and barium detections in groundwater samples taken in 2006. Chromium was not detected above the practical quantitation limit (PQL) in any sample. Barium was detected above the PQL but below the Type 1 risk reduction standard (RRS) in samples from monitor wells AT-MW-01 and AT-MW-04 at concentrations of 28 and 37 µg/L, respectively.

Human Health Risk Assessment

The human health risk assessment for HAA-17 (former USTs 25 and 26, the purge facility, and Building 1290) evaluated the potential risks to human health by comparing the maximum detected soil and groundwater constituent concentrations with the Type 1 through 4 RRS. The potential exposure to constituents detected in sediment also was evaluated by comparing the maximum detected concentrations to the Type 1 RRS. Detected surface water concentrations were compared to Georgia in-stream standards. Finally, the vapor migration from groundwater into buildings at the site was evaluated.

The data for soil collected above groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards. Therefore, the derivation of Types 2 through 4 RRS was not conducted.

The shallow groundwater data were compared to the Type 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, cis-1,3-dichloropropene, trans-1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, total 1,2-DCE, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.

The maximum sediment concentrations were compared to the soil Type 1 RRS. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were compared to the Georgia in-stream standards, if available, or the Type 1 groundwater RRS, and were below the standard. Therefore, it is unlikely that the constituents detected in sediment and surface water were present at concentrations that would pose a risk to human health.

The current groundwater concentrations were evaluated for the vapor intrusion pathway. The maximum detected current groundwater concentrations were used in the calculations as a conservative measure. The results indicated that the risks were less than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were below the benchmark of 1.

Ecological Risk Assessment

The Ecological Risk Assessment consisted of a Screening Level Ecological Risk Assessment (SLERA) and Step 3a Baseline Ecological Risk Assessment (BERA) for ecological receptors at the site based on hazard quotients (HQs). An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2004). An HQ greater than 1 indicates that adverse effects of some kind may have occurred in the past or may occur in the future and that further analysis of potential ecological risks may be warranted.

Risks were characterized for ecological receptors at the site by considering direct contact with constituents of potential ecological concern (COPECs) in surface soil (0 to 1 foot bgs). Additional media including surface water, sediment, and groundwater were ruled out because they do not present a complete exposure pathway to ecological receptors at the site.

Overall potential ecological risks do not exist for exposure to site surface soil. All chemicals have HQs below 1. Based on this assessment, there are no ecological risks at the site and no further evaluation is required.

Conclusions

Based on the results of this and previous investigations, the following conclusions are presented:

- With one exception, the full extent of TCE in groundwater at HAA-17 is delineated horizontally and vertically. The exception is the area south of the purge facility where TCE was detected at 2.6 µg/L in deep monitor well H17-MW-18D.
- The highest TCE impacts were around the former UST 25 and 26 area. Although diffuse, the source appears centered in the area between the former location of USTs 25 and 26 and Building 1336.
- Other minor TCE and VOC impacts were detected in the purge facility area and the former dry cleaner area. These areas are upgradient of the former UST 25 and 26 area and these minor impacts are not related to the TCE detected in the former UST 25 and 26 area.
- Barium and chromium were detected in the area of the purge facility in 2006. Only barium was detected in monitor well samples in 2010. None of the concentrations exceeded the Type 1 RRS.
- The data for soil collected above the groundwater table were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards.
- The shallow groundwater data were compared to the Type 1 through 4 RRS. Acetone, benzene, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, trans-1,2-dichloropropene, 2-hexanone, methylene chloride, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, 2-hexanone, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.
- The maximum sediment and surface water concentrations were compared to the soil and groundwater Type 1 RRS, respectively. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were all below the Type 1 groundwater RRS. Therefore, it is unlikely that the constituents detected in sediment and surface water are present at concentrations that would pose a risk to human health.
- The current groundwater concentrations were evaluated for the vapor intrusion pathway. The maximum detected current groundwater concentrations were used in the calculations as a conservative measure. The results indicated that the risks

were less than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were well below the benchmark of 1.

- Based on the assessment of impacted areas and ecological conditions, there are no ecological risks at the site.

1. Qualified Groundwater Scientist Certification

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields as demonstrated by state registration, professional certifications, or completion of accredited university courses that enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

_____ _____

(Signature) (Typed Name)

2. Compliance Status Certification

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391319.07, I have determined that this site is not in compliance with any type risk reduction standard.

_____
Name

_____
Title

_____
Date

3. Introduction

The U.S. Army Environmental Command (USAEC) retained ARCADIS U.S., Inc. on behalf of Hunter Army Airfield (HAAF) to investigate impacted soil and groundwater associated with HAA-17 (Figure 3-1). A Hazardous Site Response Act (HSRA) Release Notification/Reporting Form was submitted to the Georgia Environmental Protection Division (EPD) on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as Hazardous Sites Inventory (HSI) Site No. 10903. This Compliance Status Report (CSR) has been generated based on historical datasets as well as data generated in a recent investigation conducted from November 2009 through June 2010. Upon approval of the CSR, a Corrective Action Plan (CAP) will be developed.

4. Site Background

4.1 Regulatory Status

The investigation and remediation of petroleum impacts at underground storage tanks (USTs) 25 and 26 were conducted under the Georgia EPD Underground Storage Tank Management Program (USTMP) (Facility ID No. 9-025008). The referenced release was granted a no further action required status by the Georgia EPD USTMP in a letter dated August 19, 2008. During investigation activities for former USTs 25 and 26, trichloroethene (TCE) impacts were identified in groundwater. Subsequent investigations were conducted to delineate the extent of these impacts. These data were incorporated into a HSRA Release Notification/Reporting Form that was submitted to Georgia EPD on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as HSI Site No. 10903. This CSR investigation was conducted to meet Georgia EPD HSRA requirements for compounds above regulatory thresholds. The investigation activities conducted from November 2009 through June 2010 were based on the final Site Investigation Work Plan submitted to Georgia EPD in June 2009 (ARCADIS 2009). The results of previous investigations and the recent investigation are included in this CSR. Findings from the CSR will be utilized to prepare a CAP to achieve compliance with Georgia EPD HSRA requirements.

4.2 Site Description and Setting

4.2.1 Site Description

HAAF is an active military installation located in Savannah, Georgia, encompassing areas of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. HAA-17 is located in the northern portion of HAAF. A site map depicting the HAA-17 area is included as Figure 4-1. The history of operations at the installation is summarized in the booklet “Hunter Army Airfield: A History,” which is included as Appendix M1. Facilities currently and formerly located in the investigation area are described below.

4.2.1.1 Former UST 25/26

The former UST 25 and 26 site is located in the 260th Quarter Master Motorpool on Tubb Road. UST 25 had a capacity of 25,000 gallons and stored diesel fuel. UST 26 had a capacity of 6,000 gallons and stored gasoline. Both USTs were located in the

same tank pit and were constructed of fiberglass-coated steel with associated piping constructed of steel with protective coating. The refueling station construction was completed in 1986, but the station did not become operational until October 1989. The piping associated with the system was replaced with flex-piping in 1992 under a U.S. Army Corps of Engineers (USACE) project. The tanks and associated piping were abandoned in place in July 1998 (SAIC 2000). In 1998, the tanks and piping were closed in place by Earth Tech, Inc. (Earth Tech 1999). Information on buildings in the Motor Pool area, including maintenance and storage facilities, is included in Appendix M2.

4.2.1.2 Purge Facility

The HAAF purge facility is located in the southern section of the investigation area. It is an active facility where tanker trucks that store and transport petroleum products, mainly JP-8, are cleaned (SAIC 2007). A construction figure for facilities on the eastern side of the area is included in Appendix M3.

4.2.1.3 Building 1290

Building 1290 is located in the western section of the investigation area adjacent to the airfield. It is an aircraft hangar that formerly had a degreasing system located in the corner of the facility (SAIC 2008).

4.2.1.4 Other Facilities

Other facilities previously located in the investigation area include a former dry cleaning facility that was located east of Building 1290. The location of the former dry cleaning facility is shown on Figure 4-1. A new building now covers the location. The former weapons cleaning facility was located south of the former dry cleaner.

The Strategic Air Command (SAC) special weapons area was formerly located west of the former UST 25 and 26 area. From 1950 through 1963, HAAF operated as a SAC Air Force Base. This training area was used to train personnel in assembling and handling special weapons, including routine maintenance procedures. Two construction figures for the former Special Weapons Training Facility are included in Appendix M4.

4.2.2 Regional Geology/Hydrogeology

HAAF is located on the Lower Coastal Plain physiographic province, which is typified by low relief that slopes toward the Atlantic Ocean. The geology is comprised of a seaward thickening sequence of unconsolidated sediments deposited from sediments eroded from the Blue Ridge Mountains. Previous regional investigations suggest that there have been minor amounts of structural deformation in the Savannah, Georgia, area during deposition of these sediments, starting in the early Cretaceous Period. The total thickness of the sediments in the Savannah, Georgia, area is more than 2,000 feet.

The regional hydrogeology in the vicinity of HAAF consists of two aquifers separated by a thick confining unit. The primary water supply aquifer in the Lower Coastal Plain of Georgia and Florida is the Floridan aquifer, which is the deeper of the two aquifers. The Floridan aquifer is a regionally extensive aquifer that is approximately 800 feet thick in the area of Savannah. It is comprised primarily of Oligocene-age and Eocene-age porous limestones. The uppermost aquifer system is the surficial aquifer at and surrounding Savannah, Georgia, and is underlain by two continuous clay units separating this aquifer from the Floridan. These two clay units, separating the aquifers, are named the Coosawhatchie Formation and Berryville Clay member of the Hawthorne Group (Huddlestun 1988). Fossils and sediment samples suggest that these two units were deposited during the Middle Miocene Period in a low-energy, open marine environment over a wide area. The open ocean depositional environment resulted in the widespread and continuous nature of these clay units. A deep test well in Savannah (GGS-3139) shows that the clay units extend from approximately 45 feet to 167 feet in depth near HAAF. A cross-section from Huddlestun is included in Appendix I. It has been demonstrated that there is minimal potential for shallow groundwater to impact deeper groundwater quality as a result of the thick confining unit that separates the uppermost aquifer system from the underlying Floridan aquifer.

The sediments overlying the Hawthorne Group clays to land surface are composed of a sequence of near-shore to shoreface (barrier island) sediments that prograde over the Hawthorne Group marine clays. Published investigations have identified nine sets of overlapping relict beach ridges of Pleistocene age to Holocene age on the Lower Coastal Plain that prograde toward the Atlantic Ocean. Each barrier sequence forms a ridge (also termed terrace) that is progressively lower and closer to the modern barrier island. The ancient beaches formed during higher sea levels and are approximately parallel to the modern barrier island complex. Each barrier system is at a consistent elevation above sea level with approximately 20 feet of relief above surrounding land.

4.2.3 Hunter Army Airfield Depositional Model

HAAF is located on a relict beach ridge named the Pamlico Terrace, which has current elevations ranging from approximately 20 feet above mean sea level (msl) to 40 feet above msl. This abandoned beach ridge was formed during the late Pleistocene (>10,000 years) age. The Pamlico Terrace sediments are approximately 50 feet thick at HAAF. The shallow sediments at HAAF are comparable to sediments that form the nearby modern barrier islands along the Atlantic Coast. Pamlico Terrace is older and is at a slightly higher elevation than the modern barrier beach. Common general characteristics of barrier island systems are:

- an exposed belt of sand separated from the mainland by a shallow body of water, such as a lagoon
- greater length than width
- a straight seaward margin with a lobate, crenulate, or cuspate landward margin
- a coarsening-upward sequence of sand with the uppermost portion of which consists of eolian dunes

These generalities of modern barrier islands can be used to predict the shallow stratigraphy at HAAF. Utilizing the general depositional model of the barrier island system, an understanding of the shallow sediments at HAAF can be placed into context for the interrelationships of the sand units, silt units, and clay units in the uppermost aquifer system observed at HAAF. The highest part of the ridge is the beach, comprised of fine- to medium-grained, well-sorted quartz sand. The beach itself is a massive sand with little clay and silt because it was reworked by constant wave action and migration of tidal inlets. This ridge is the location of the current airfields at HAAF and trends northeast to southwest through HAAF. East of the ridge was the shallow open Atlantic Ocean, which should consist of finer sands that were constantly reworked to form well-sorted sands that are finer when compared to the beach. Grain size should decrease with increasing water depth because of the limited winnowing in deeper water by reduced wave action with depth.

Marshes and bays would have occurred behind the barrier to the west of the airfields. Deposits in this area are generally silts and clays characteristic of lower energy environments with some interbeds of sands. The sand units were deposited from tidal inlets that migrated along the barrier and wash-over fans from storms. Individual units will drape off of the central barrier island sands. Clays interbedded with the sands will compact with time to form somewhat continuous but thin units, which can be confining in nature.

5. Previous Investigations Conducted at HAA-17

For all previous investigations, permanent monitor wells are shown on Figure 5-1 and well construction details are included as Table 5-1.

5.1 UST 25 and 26 Closure and CAP – Part A Investigation (1998)

Former USTs 25 and 26 were located in the 2nd Battalion 3rd Aviation Brigade Motor Pool (previously the 260th Quartermaster Motor Pool) on North Lightning Drive. The location of the former USTs are shown on Figure 4-1. UST 25 was a 25,000-gallon tank used for storing diesel fuel, and UST 26 was a 6,000-gallon tank used for storing gasoline. The station was operational from October 1989 until July 1998, when the tanks and piping were abandoned in place. Following the in-place tank closure performed in 1998, a CAP – Part A investigation was performed and petroleum impacts were detected in soil and groundwater (Earth Tech 1999).

5.2 UST 25 and 26 CAP – Part B Investigation (1999)

Based on the findings of the in-place tank closure report and CAP – Part A, a CAP – Part B Site Investigation (SI) was conducted by Science Applications International Corporation (SAIC) to determine the nature and extent of petroleum contamination. During the CAP – Part B SI activities in May 1999, TCE was tentatively identified in groundwater. Between September and October 1999, additional vertical profile borings/monitor wells were installed and existing wells were sampled to evaluate the potential TCE impacts. The analytical results confirmed the presence of TCE (as well as 1,2-dichloroethene [1,2-DCE], 1,1-dichloroethane [1,1-DCA], and 1,2-DCA) in groundwater. Vertical borings and/or monitor wells AF-01 through AF-39 were installed during the 1999 CAP – Part B investigation. The results of the 1999 CAP – Part B SI were presented in the CAP – Part B for USTs 25 and 26, which was submitted to the Georgia EPD USTMP in February 2000 (SAIC 2000). Soil sample locations are shown on Figure 5-2. Groundwater analytical data from the UST 25 and 26 CAP – Part B investigations are provided in Table 5-2.

5.3 UST 25 and 26 Supplemental CAP – Part B Investigation (2000 – 2001)

Additional field investigations were conducted in 2000 and 2001 to determine the horizontal and vertical extent of the TCE plume. The results of those investigations are documented in Corrective Action Plan – Part B, Addendum #1, Underground Storage Tanks 25 & 26, Facility ID #9-025008, Building 1343, Hunter Army Airfield, Georgia (SAIC 2001).

In January 2000, the three deep permanent monitor wells (AF-40, AF-41, and AF-42) were installed as part of the UST 25 and 26 Monitoring Only Plan to monitor chlorinated solvent impacts. The deep wells were screened between 28.5 and 33.5 feet below ground surface (bgs), corresponding to the highest TCE concentrations observed in nearby vertical profile borings. Monitor well locations are shown on Figure 5-1.

In April 2000 and October/November 2000, Argonne National Laboratory conducted a geophysical survey in the wooded area southeast of the former UST 25 and 26 location to better characterize the subsurface geology potentially affecting TCE migration. A copy of the geophysical report was included in the CAP – Part B Addendum #1 (SAIC 2001) and was included in the Site Investigation Work Plan (ARCADIS 2009).

During a sampling event in the September 2000, 33 groundwater samples were collected for volatile organic compound (VOC) analysis from 30 shallow and three deep monitoring wells.

In November and December 2000, 10 vertical profile borings (AF-43 through AF-52) were installed to further delineate the vertical extent of TCE contamination in groundwater. Groundwater samples were collected at 5-foot intervals from the water table to 50 feet bgs. As part of the second semiannual sampling event in January 2001, three groundwater samples were collected from three deep monitoring wells (AF-40, AF-41, and AF-42) and analyzed for VOCs to monitor the presence of TCE in the deep surficial aquifer. In February 2001, 10 monitor wells (AF-53 through AF-62) were installed at the site based on the review of the November/December 2000 vertical profile data (Figure 5-1). The monitor wells were sampled in March 2001. The results of the investigations conducted in 2000 and 2001 were presented in the CAP – Part B Addendum #1 for USTs 25 and 26 submitted to the Georgia EPD USTMP in June 2001. Groundwater analytical data from the former UST 25 and 26 CAP – Part B investigations are provided in Table 5-2. During these investigations of the TCE impacts associated with former USTs 25 and 26, TCE was detected at a maximum of 7,730 micrograms per liter (µg/L) in temporary boring AF-52 in December 2000. The dissolved TCE concentrations decreased in all directions from AF-52. Concentrations greater than 1,000 µg/L were limited to an area around AF-52 and AF-43/53 and an area near AF-45/55 and AF-63 at the other end of the former tank cavities.

5.4 UST 25 and 26 Supplemental CAP – Part B Investigation (2001 – 2002)

The CAP – Part B Addendum #1 (SAIC 2001) documented the first phase of the supplemental investigation activities related to the chlorinated solvent plume that was discovered during the activities in 1999. The second addendum documented the second phase of supplemental investigation activities conducted between April 2001 and December 2002 related to that plume. In July 2002, five vertical profile borings (AF-63 through AF-67) were installed to further delineate the horizontal and vertical extent of TCE contamination in groundwater. Groundwater samples were collected at 5-foot intervals from the water table to 45 feet bgs. The results as described in the CAP – Part B Addendum #2 that the TCE plume observed at the 10-to-20-ft bgs interval was not only located beneath the motor pool of the USTs 25 & 26 site, but also southwest under Tubb Street and southeast into the wooded area. The TCE plume observed at the 20-to-30-, 30-to-40-, and 40-to-50-ft-BGS intervals was located beneath the motor pool of the USTs 25 & 26 site. The report noted that the areal extent of the TCE plume decreases with depth and that the highest TCE concentrations occur at the 20-to-30-ft interval, which is just above the upper clay layer identified in the geophysical survey.

In October 2002, five monitor wells (AF-68 through AF-72) were installed at the site based on the July 2002 vertical profile data. The five wells were sampled in December 2002. 1,1-Dichloroethene and TCE were the only constituents to exceed their respective MCLs or IWQSs. The results of the investigations conducted between July 2002 and December 2002 were presented in the CAP – Part B Addendum #2 for USTs 25 and 26 (SAIC 2003) and are included in Table 5-2.

5.5 UST 25 and 26 Vertical Profile Investigation (2003)

In October 2003, six vertical profile borings (AF-73 through AF-78) were installed to further delineate the horizontal and vertical extent of VOC contamination in groundwater. Groundwater samples were collected every 5 feet from the water table to a depth of approximately 50 feet bgs. The investigations indicated that the dissolved TCE concentration in groundwater was significantly lower upgradient of the former UST tank farm.

The results of the 2003 vertical profile investigation were presented in the Data Summary Report for the 2003 Vertical-Profile Investigation (SAIC 2004). A historical summary of groundwater analytical data collected for the UST 25 and 26 CAP – Part B investigations is provided in Table 5-2.

5.6 UST Removal (2006)

Tank excavation and removal activities were performed by CAPE Environmental, Inc. in April 2006. Prior to backfilling activities, 100 pounds of oxygen release compound was placed in the bottom of the excavation to enhance aerobic degradation of benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. The backfill material used at the site was the removed material from the excavation. Monitoring well AF-12 was destroyed during excavation activities and was replaced prior to the July 2006 semiannual sampling event. Excavation and well locations are shown on Figure 4-1.

5.7 UST 25 and 26 Monitoring (2003 – 2007)

Semiannual sampling of select wells was conducted in accordance with Georgia EPD USTMP direction from 2003 through 2007. Results are provided in Table 5-2.

5.8 UST 25 and 26 Interim Remedial Action (2007)

An Interim Remedial Action (IRA) was implemented to remove wells AF-07 and AF-12 and the contaminated soil/free product around them in a single excavation for each well to more rapidly remediate the free product historically found in these two wells. The IRA consisted of excavating a 6-foot by 6-foot area around each well to a depth of 9.5 feet. Following the excavation, the wells were replaced with new 4-inch-diameter pre-packed wells and the pits were backfilled with gravel to allow any residual free product to migrate to the new wells. AF-40, immediately adjacent to groundwater well AF-07, was plugged and abandoned to facilitate removal of well AF-07 (Solutions to Environmental Problems, Inc. 2007). Subsequent sampling and monitoring indicated compliance with CAP – Part B closure criteria and a no further action required status was granted by the Georgia EPD USTMP in a letter dated August 19, 2008 (Lewis 2008).

5.9 Purge Facility Investigation (2002 and 2006)

5.9.1 Sampling Data

In December 2002, USACE installed five vertical profile borings (B159-1 through B159-5) to the west of the UST 25 and 26 site to assess the potential connection of the purge facility to the TCE impacts at USTs 25 and 26. The results, which are included in Table 5-2, showed that TCE did not appear to be present along North Lightning Drive

to the west and southwest of former USTs 25 and 26. The purge facility is located west of the UST 25 and 26 area as shown on Figure 4-1.

To supplement the December 2002 sampling results, between May and July 2006, soil and groundwater samples were collected at the purge facility. One deep monitor well (AT-MW-01, screened from 40 to 45 feet bgs) and four shallow wells (AT-MW-02 through AT-MW-05, each screened from 2.3 to 12.3 feet bgs) were installed at locations shown on Figure 5-1. Soil samples were collected from three locations (AT-SS-01 through AT-SS-03) along a surface drainage pathway feature and from the five monitor well borings (Figure 5-2). All samples were analyzed for VOCs, semivolatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) metals.

During the purge facility investigation in 2006, 34.8 µg/L of TCE was detected in groundwater from deep monitor well AT-MW-01 (screened from 40 to 45 feet bgs). TCE was detected at a concentration of 19.4 µg/L in a sample from DPT-01 at a similar interval (41 to 45 feet bgs). All other samples, including those collected at shallow intervals, were below detection limits for TCE. The purge facility area is side- and upgradient of former USTs 25 and 26 and was not demonstrated to be a source for TCE in groundwater. RCRA metals chromium and barium were detected in groundwater samples from the purge facility monitor wells. Total chromium was detected in one well and barium was detected in all five wells. The turbidity in the sample from AT-MW-01, the only well where chromium was detected, was 80 Nephelometric Turbidity Units (NTUs), indicating the results were potentially attributable to particulates in the sample.

In soil samples collected from three locations (SS-01 through SS-03) along a surface drainage pathway feature and from five monitor well borings (AT-MW-01 through AT-MW-05), no SVOCs or RCRA metals were detected at levels above Type 1 risk reduction standard (RRS) concentrations. The only VOC detected was carbon disulfide, which was detected in samples from two locations. The HSRA Notification Concentration for carbon disulfide is the detection limit. However, carbon disulfide can be released into the environment from a variety of natural sources, including the metabolic action of soil bacteria and plants (World Health Organization 2002), and there is no evidence to indicate that these two isolated detections of low concentrations are attributable to an anthropogenic source.

The results of the investigation were presented in the Site Investigation Report for the purge facility (SAIC 2007). A summary of soil and groundwater analytical data collected

during the investigation of the purge facility is provided in Tables 5-3 and 5-4, respectively.

5.9.2 Background Data

As part of the evaluation presented in the Site Investigation Report for the purge facility (SAIC 2007), metals background concentrations for the Old Property Disposal Yard and the Fire Training Area were utilized for evaluating metals concentrations at the purge facility. Surface and subsurface soil reference background concentrations for the Fort Stewart Military Reservation, which has similar characteristic soils (SAIC 2000), were also utilized for comparison (SAIC 2007). These data are provided in Appendix H.

5.10 Building 1290 Investigation (2007 – 2008)

Between May 2007 and January 2008, Building 1290 was investigated as a potential source of the TCE detected in groundwater at the UST 25 and 26 area and the nearby purge facility. Investigation activities included monitor well installation, membrane interface probe (MIP) data collection, and groundwater and soil sampling using direct push technology (DPT). Locations of monitor wells and DPT sampling locations are shown on Figures 5-1 and 5-2, respectively.

Between October 2007 and January 2008, 40 MIP locations were installed during two mobilizations. Initial MIP sampling locations were around Building 1290 as well as north and northwest of former USTs 25 and 26. Subsequent MIP sampling locations that were installed during the second mobilization were located south to southeast of the previous locations. Confirmation soil and groundwater samples at 20 selected MIP locations were collected using DPT.

Most of the VOCs detected in confirmation DPT groundwater samples were chlorinated solvents and their degradation products. The remaining constituents detected in groundwater were associated with petroleum contamination. Fourteen VOCs were detected in confirmation subsurface groundwater samples collected at MIP locations. TCE or other VOCs were not detected near Building 1290. In the 20 soil sample locations around Building 1290 and downgradient to areas east of former USTs 25 and 26, no VOCs were detected at levels above Type I RRS concentrations and no apparent sources were identified. Near Building 1336, TCE was detected at 74.8 µg/L in groundwater at DPT-05 (approximately the same location as sample point AF-74). In groundwater samples from east of the former tank farm and the drainage canal, TCE

was detected at a concentration of 483 µg/L in temporary boring DPT-10 (near monitor well AF-35).

Twenty-one wells installed in May 2007 and two existing wells (MW-15S and MW-16S) were sampled in July 2007. The results are included in Table 5-5. During sampling of the monitor wells in the former UST 25 and 26 location, TCE was detected at 807 µg/L in shallow monitor well AF-72 (screened from 2.5 to 12.5 feet bgs) and at 604 µg/L in monitor well AF-51 (15 to 20 feet bgs), which are also east of the canal.

The vertical profile analyses indicated that the highest TCE concentrations at the former UST 25 and 26 area were at approximately 20 to 30 feet bgs. The results are included in Table 5-6. The results of the investigation of Building 1290 were presented in the Data Summary Report for the TCE Plume at Building 1290 (SAIC 2008).

6. Site-Wide Investigation Activities (2009 – 2010)

The primary focus of the most recent investigation conducted in late 2009 and 2010 was the delineation of the extent and identification of the source(s) of TCE impacts in groundwater at HAA-17. This included investigating the TCE impacts at the former UST tank farm, the upgradient areas previously identified as of potential concern, and the area east of the drainage canal. Additional investigation of the metals previously detected at the purge facility was also conducted.

All procedures and techniques utilized for this investigation conformed to U.S. Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division (SESD) guidance and the approved Hunter Army Airfield/Fort Stewart Sampling and Analysis Plan (ARCADIS 2009). Sampling and analysis procedures are included in Appendix I. All soil and groundwater samples collected as part of this investigation were analyzed by Shealy Environmental Services, Inc., a Georgia-certified laboratory.

Following is a summary of the activities conducted as part of the HAA-17 investigation:

- Water level measurements were collected from the monitor wells in February 2010 and after new well installation in May and June 2010.
- Slug tests were performed in seven selected wells in December 2009 to determine hydraulic conductivities in the shallow and deep portions of the upper aquifer.
- Thirty-six existing monitor wells were sampled in February 2010 to confirm previous results and provide current data on potential source areas and downgradient vertical and horizontal extents.
- The vertical and horizontal profile of VOC contamination in soil and groundwater in suspected source areas around the former UST 25/26 area was investigated using MIP technology. Borings were utilized for the collection of soil and groundwater samples at locations indicated by MIP data.
- Additional borings were installed for soil and groundwater sampling using DPT to evaluate contaminant distribution and extent.
- Nine groundwater monitor wells were installed and sampled in April and May 2010 to determine the extent of impacted groundwater.
- Two piezometers were installed in June 2010 to evaluate the relationship between groundwater and surface water flow near the drainage canals southeast of the former USTs and adjacent to Lightning Road.

6.1 Water-Level Measurements

Water-level measurements were collected in February 2010 from selected monitor wells installed in the HAA-17 area to provide a comprehensive view of vertical and horizontal gradients in the area. Water levels, including newly installed monitor wells, were collected again in May and June 2010. All of the monitor wells that could be located on site were measured in order to obtain a comprehensive view of groundwater flow directions and vertical gradient. Groundwater elevation data are included in Table 6-1.

6.2 Slug Testing

In December 2009, slug tests were performed in seven monitor wells on the HAA-17 site, including AF-08, AF-20, AF-24, AF-53, AF-54, AF-55, and AF-57. Slug tests were performed to determine hydraulic conductivities in the shallow and deep intervals of the upper aquifer. Rising head and falling head tests were conducted at each location. Following completion of the tests, ARCADIS utilized the Hvorslev method to calculate the hydraulic conductivities (i.e., the *k* value) from the test data.

6.3 Baseline Sampling of Monitor Wells

To obtain updated data on groundwater impacts, 36 monitor wells were sampled. The monitor wells screened in the shallow portion of the upper aquifer consisted of AT-MW-02, AT-MW-03, AT-MW-04, AT-MW-05, MW-2S, MW-3S, MW-5S, MW-7S, MW-8S, MW-9S, MW-12S, MW-13S, MW-16S, AF-13, AF-14, AF-23, AF-25, AF-26, AF-35 and AF-58. The monitor wells screened in the deep portion of the upper aquifer consisted of AT-MW-01, MW-2D, MW-3D, MW-5D, MW-7D, MW-8D, MW-9D, MW-12D, MW-13D, AF-41, AF-54, AF-55, AF-56, AF-57, AF-68 and AF-69.

Low-flow techniques were used to collect groundwater samples from the selected monitor wells. Prior to sampling, field measurements including pH, specific conductance, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity were measured. Groundwater samples from known and/or suspected TCE-impacted areas (i.e., all wells outside of the purge facility) were analyzed for VOCs according to USEPA Method 8260B. In addition to VOCs, the groundwater samples from the purge facility monitor wells were also analyzed for USEPA Method 6010 to determine total barium and total chromium concentrations in groundwater. Groundwater samples were submitted to Shealy Environmental Services, Inc. in West Columbia, South Carolina, a Georgia-certified laboratory.

6.4 Membrane Interface Probe

MIP borings were installed in areas where TCE concentrations from previous investigations indicated the potential for source mass in the area of former USTs 25 and 26. Initial MIP borings were installed in proximity to AF-52 and AF-53, where the highest historical concentrations of TCE were observed. Additionally, MIP borings were installed in proximity to AF-45 and AF-55, where TCE concentrations previously detected in groundwater were above 1,000 µg/L. The MIP borings were advanced to the clay confining layer (approximately 40 to 45 feet bgs). The locations are presented on Figure 5-1. Subsequent MIP borings (also shown on Figure 6-1) were located based on initial MIP results.

The MIP is a tool that provides near real-time data on the distribution of VOCs with depth. Using a direct-push rig the MIP tool is advanced through the subsurface. On the MIP tool, a semi-permeable membrane is heated, promoting diffusion of VOCs across the membrane and into an inert carrier gas that travels to up-hole gas-phase detectors. The MIP tool has three gas-phase detectors: a photoionization detector (PID), a flame-ionization detector (FID), and an electron capture detector (ECD). Each gas-phase detector responds differently to the presence of VOCs; however, all of the detectors are non-specific to individual compounds and provide qualitative, screening-level data. The MIP was stopped every 2 feet to provide chemical profile logs from each hole. Combined on the MIP unit was an electrical conductivity array to provide a continuous measure of sediment conductivity. Comparison of the electrical conductivity responses to existing nearby well logs allowed for verification of the responses and confirmation of the clay beds within the silty sands and sand units. MIP vapor concentration measurements and conductivity tests were performed at 2-foot intervals from approximately 5 feet bgs to the underlying silty-clay confining layer encountered between 40 and 45 feet bgs. The initial MIP points provided real-time data that were used to determine subsequent MIP locations, temporary soil boring locations and permanent monitor well locations. The goal of the MIP investigation initially was to determine elevated VOC concentrations near the source of the release. Because the MIP will not reliably detect low level VOC concentrations (less than 500 µg/L), the MIP was used only in suspected source areas. The MIP data were used to locate temporary borings as well as permanent wells from which groundwater samples were collected for laboratory analysis.

6.5 Temporary Borings

Based on MIP results, 12 soil borings (H17-AF-01, H17-AF-15, H17-AF-53, H17-AF-61, H17-AF-62, H17-AF-101 through H17-AF-105, H17-AF-107, and H17-AF-108) were installed to delineate the extent of TCE impacts in the former UST 25 and 26 area.

Seven soil borings were located based on previous investigations. Four soil borings (H17-PF1 through H17-PF4) were also installed in the areas of the purge facility to investigate the low concentrations of TCE detected in groundwater during the previous investigation at the purge facility. Three soil borings (H17-FD1 through H17-FD3) were installed in the area of the former dry cleaner to determine if that facility was potentially a source area.

A Geoprobe was utilized to install the temporary borings to the base of the upper aquifer at approximately 40 to 45 feet bgs. Continuous soil borings were advanced to total depth and lithologies were recorded by a qualified geologist. Soil samples were screened with a PID. Some of the unsaturated soil samples were selected for analysis based on PID readings or intervals identified by the MIP, and/or data from previous investigations. Samples were analyzed in the laboratory by USEPA Method 8260B. In addition to the soil samples, groundwater samples were collected during temporary boring installation activities from sampling locations H17-AF-102 through H17-AF-108, H17-FD1 through H17-FD3, H17-PF1, H17-PF2, and H17-PF4. Discrete groundwater samples were collected from the 41- to 45-foot bgs interval. Samples were collected through direct push rod tooling with a sealed stainless steel screen sampler opened at target depth to ensure that samples were collected from the 41- to 45-foot interval and that concentrations were not affected by more shallow intervals.

All soil and groundwater samples were submitted to Shealy Environmental Services, Inc. The locations of the temporary borings were surveyed by Bateman Civil Survey Company, PC, a land surveyor registered in the state of Georgia. Following logging of soil cores and/or sample collection, all temporary borings were grouted with cement from total depth to land surface to protect separation of aquifers.

The investigation-derived waste (IDW) from the installation of borings for MIP and soil and groundwater sampling was collected in U.S. Department of Transportation (DOT)-approved 55-gallon drums. Samples were collected for characterization and disposal purposes. IDW samples were submitted to Shealy Environmental Services, Inc. for analysis.

6.6 Groundwater Monitor Wells

Based on the sample results from the sampling conducted in February 2010, nine additional wells were installed by ARCADIS in April and May 2010.

At each well location, a continuous soil core was advanced and logged by a qualified geologist. Soil core boreholes were grouted with cement from total depth to the surface to protect separation of aquifers. Screened intervals were selected based on the description of the continuous soil cores to prevent well screens from penetrating potential aquicludes.

The additional monitor wells consisted of H17-MW-17S/D, H17-MW-18D, H17-MW-19S, H17-MW-20D, H17-MW-21S/D, and H17-MW-22S/D. The new wells were sampled as part of a second sampling event in May 2010. Based on previous groundwater sampling results, the monitor wells installed at Building 1290 acted as extent wells to the west, so no additional wells were installed in that area. One additional well pair (shallow and deep) was installed to the north along Wilson Boulevard to delineate TCE degradation product 1,1-DCE. These wells, H17-MW-17S and H17-MW-17D, were installed to depths of 18 and 42 feet, respectively. An additional deep well, H17-MW-18D, was installed to the south of the purge facility to delineate TCE in deep groundwater and was installed to a depth of 40 feet. An additional shallow well, H17-MW-19S, was installed southwest of AF-58 along the south side of the drainage canal to monitor elevated TCE concentrations in shallow groundwater and was installed to a depth of 15 feet. An additional deep well, H17-MW-20D, was installed to the southeast of former USTs 25 and 26 east of the canal to define the extent of TCE-impacted groundwater on the east side of the drainage canal and was installed to a depth of 28 feet. Two additional well pairs (shallow and deep), H17-MW-21S, H17-MW-21D, H17-MW-22S, and H17-MW-22D, were installed just west of Perimeter Road as extent wells. These shallow and deep wells were installed to depths of 17 feet and 35 feet, respectively. Well specific total depths and screened intervals were based on soil cores collected from the monitor well locations.

The wells installed within the deep portion of the upper aquifer were constructed of 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) and equipped with 10-foot pre-packed screens. The wells installed within the shallow portion of the upper aquifer were constructed of Schedule 40 PVC equipped with 10 feet of 0.01-inch slotted PVC screen. In both the shallow and deep wells, No. 2 sand was poured into the annular space between the well casing and outside wall to a depth between 2 and

3 feet above the top of the screen. A seal measuring 1 to 2 feet thick consisting of bentonite chips was also poured into the annular space. Grout consisting of Portland cement was then pumped into the annular space above the bentonite to a depth of approximately 1 foot bgs. With the exception of monitor well H17-MW-20D, the wells were completed at ground surface within steel flush-mount vaults and locking well seals. The surface completions for most of the wells were flushmount because the wells are located around buildings or in active areas. Monitor well H17-MW-20D, which was installed within the wooded area to the east of former USTs 25 and 26, was completed with a stick-up protective cover to facilitate locating the well for future sampling. The monitor wells were surveyed for location and elevation by EMC Engineering, Inc., a land surveyor registered in the state of Georgia.

All soil wastes and well development water from installation of monitor wells were segregated by monitoring well and collected in DOT-approved 55-gallon drums. Samples representative of each well were collected from drums for characterization and disposal purposes prior to moving the drums to a centralized storage location on the HAAF site. IDW samples were submitted to Shealy Environmental Services, Inc. for analysis.

6.7 Sampling of Newly Installed Monitor Wells

Groundwater samples were collected from the nine newly installed monitor wells. Low-flow techniques were used to collect groundwater samples from the selected monitor wells. The groundwater samples were submitted to Shealy Environmental Services, Inc. and were analyzed for VOCs in accordance with USEPA Method 8260B.

6.8 Piezometer Installation/Sampling of Surface Water and Sediment

In June 2010, two stainless-steel piezometers were installed within the drainage canal located to the southeast of former USTs 25 and 26. One piezometer was located immediately southeast of the former USTs, while the other was located within the canal on the opposite side of Lightning Road to the southwest. The piezometers were installed to monitor the relationship between surface water and groundwater. Piezometers were constructed of 1-inch-diameter steel riser pipes equipped with a 1-foot stainless-steel screen. The piezometers were jetted into the base of the canal using a recirculating pump to approximately 7 feet bgs. Filter sand was emplaced around the piezometer screens and a bentonite seal was installed from the top of the filter sand to the bottom of the canal surface water. The piezometers were constructed

so that the riser pipes extended above the surface water. Piezometer locations are shown on Figure 5-1.

To investigate potential impacts to the canal, sediment and surface water samples were collected. The samples were collected from within the vicinity of the former tank farm area, upstream of the area and downstream of the area. The sediment and surface water samples were submitted to Shealy Environmental Services, Inc. and were analyzed for VOCs in accordance with USEPA Method 8260B.

6.9 Vapor Intrusion – Indoor Air Pathway

Following source delineation, ARCADIS analyzed historic and current soil and groundwater data to determine if the indoor air pathway was complete and would need further evaluation. Based on a comparison to applicable Georgia EPD standards for the soil to indoor air and groundwater ingestion pathways, it was determined that the pathway is incomplete. Additional information on the evaluation of the indoor air pathway is included in Section 8.

7. Site-Wide Investigation Results

7.1 Hydrogeology/Geology

7.1.1 Geologic Conditions

The HAA-17 site is located southeast of HAA-15, the MCA Barracks site (HSI 10521), on the opposite side of the Pamlico beach ridge. Topography from HAA-15 to HAA-17 is relatively flat with less than 5 feet in relief (Figure 4-1). Former USTs 25 and 26 were located on a relatively steep east-facing slope that forms the eastern boundary of the Pamlico beach ridge. The elevation decreases about 10 feet over a horizontal distance of approximately 300 feet to a drainage canal. The steep eastern topographic slope suggests that the HAA-17 area was deposited on the seaward side of the Pamlico beach ridge.

Facies observed west of the former UST locations on top of the Pamlico ridge are typical of the beach and shallow foreshore in open marine conditions consisting mainly of sands. The log from monitor well AT-MW-01 located to the west of former USTs 25 and 26 near the purge facility describes poorly sorted sand with no discernible clay units to a total depth of 45 feet. Additional soil cores were completed in the vicinity of the purge facility area during sampling in 2009. These locations also indicated that the upper 45 feet is predominantly sand with some thin clay intervals detected at depth. Borings completed west of the former UST area near the former dry cleaner area (H17-FD1 – 3) indicated that the upper aquifer in this area consisted of well-sorted fine sand to total depth (45 feet bgs). Facies observed during installation of monitor wells H17-MW-17D and H17-MW-18D, also west of former USTs 25 and 26, indicated that the upper aquifer in this area is predominantly sand with some thin clay lenses. Soil core descriptions were not recorded in the groundwater investigation at Building 1290, which is in the western portion of the investigation area. Because of the proximity to the Pamlico ridge, the Building 1290 area is anticipated to consist of sands with little to no discernible clay units.

Logs from the borings installed in 2009 suggest shallow marine conditions farther east in the area of the former tank farm. Figure 7-1 illustrates a cross-section along a topographic strike near the former UST area. The dominant facies is poorly sorted, fine-grained, silty sand with some clay. The silty sand is typical of a shallow open marine environment. Most of the UST area does not have distinct clay interbeds down to a depth of approximately 40 feet. A confining unit of clay was observed during the installation of wells AF-57, AF-55, and AF-54 at a depth of approximately 40 feet. Most

other monitor wells associated with the previous UST investigation of the area were terminated above this depth.

Facies descriptions taken in 2010 during installation of H17-MW-20D, located on the eastern side of the canal, encountered clay between 25 to 30 feet bgs. Soil cores taken during installation of two monitor wells (H17-MW-21D and 22D) installed farther east of the canal along Perimeter Road also indicated a number of clay intervals. Also, shallow borings east of the drainage ditch at the base of the Pamlico beach ridge indicated shallow clay units and a thicker confining clay unit between 30 and 35 feet bgs. A geophysical survey conducted in 2000 by Argonne National Laboratory confirmed shallow clay units east of the drainage canal. Significant clay units are not typical of the shallow open marine environment. These clay units probably represent a marsh area.

7.1.2 Hydrogeologic Conditions

Horizontal groundwater flow around the former UST area conforms to the relatively steep slope to the southeast. Depth to the water table varies from about 2 feet to 5 feet bgs with a gradient on the slope of about 0.009 ft/ft. There should be minor variation in groundwater flow direction at the former UST area based on the relatively steep topographic slope. The horizontal groundwater gradient in the relatively flat area upgradient of the former UST 25 and 26 location is approximately 0.003 ft/ft. A summary of groundwater elevations at HAA-17 collected in 2006 and in February, May and June 2010 is included in Table 6-1.

Groundwater flow direction for most of the HAA-17 area is to the southeast toward former USTs 25 and 26 and the drainage canal. An investigation completed by SAIC in the area of Building 1290 indicated that groundwater in the Building 1290 area was flowing west-southwest and that Lightning Road east of Building 1290 was the approximate location of an apparent groundwater divide. Potentiometric contour figures, based on water levels collected in June 2010 that incorporated all wells that were able to be located across the site, are included as Figures 7-2 and 7-3. Potentiometric surface maps were created for both the shallow and deep wells installed on the site. The maps confirmed that the groundwater divide observed in 2006 and 2007. Groundwater west of the divide flows in a west-southwest direction toward the taxiways north of the main runway while groundwater in the vicinity of the former purge facility and former USTs 25 and 26 follows the topographic gradient of the site and flows to the southeast toward the toward the drainage canal. Groundwater flow directions based on the June 2010 event are consistent with historic data. The

groundwater divide is evident in both shallow and deep groundwater. The topography is illustrated on Figure 4-1.

No significant vertical gradient was detected in the flat areas west of the former UST area where Building 1290 and the former dry cleaner are located. Facies observed during the 2009 DPT investigation indicated little to no clay interbeds in this area, thus providing little opportunity for a confining layer to alter water levels. Farther east toward the former UST 25 and 26 area, monitor well pair MW-9S/D has a vertical head difference of –1.75 feet from the shallow portion to the deep portion. Increasing amounts of clay and silt are likely present in this area, which appear to divide the shallow and deep portions of the upper unconsolidated groundwater aquifer. Monitor well data suggest a downward hydraulic gradient is also present in some areas of former UST tank farm. In the UST 25 and 26 and canal area, shallow monitor well AF-07 is located near deeper monitor well AF-40. These wells are located on the slope near former USTs 25 and 26 and historically have shown no significant vertical gradient. Conversely, monitor well pairs indicate a significant upward gradient on the east side of the canal. Shallow monitor well AF-27 is located near deeper monitor well AF-42 on the east side of the drainage canal. These two wells show a significant upward head difference of +2.35 feet to +3.59 feet in measurements from year 2000 to year 2003. Similarly, recently installed monitor well pairs H17-MW-21S/D and 22S/D, both located east of the drainage canal, had head differences of +2.70 feet and +2.89 feet, respectively. Table 7-1 provides a comparison of groundwater elevations between the shallow and deep intervals of the upper aquifers.

A consistent clay layer was encountered site-wide between 40 and 45 feet bgs (shallower near canal), which acts as a confining layer to the underlying Floridan aquifer, encountered between 200 and 800 feet bgs. In addition, thinner, silty clays were encountered in a majority of borings located to the east of the runways in the area of former USTs 25 and 26. This clay layer appears to serve as a semi-confining layer, separating the shallow and deep portions of the upper aquifer. This layer was not observed in borings completed at the purge facility or at the former dry cleaning facility. This is likely a result of the borings' proximity to the current runways dominated by sands that are known to exist to approximately 40 to 45 feet bgs.

For those wells analyzed within the shallow groundwater zone (AF-08, AF-20, and AF-24), hydraulic conductivities ranged from 0.55 to 0.66 feet/day. In each of these cases, only the calculated conductivities from the "slug-out" tests were used, since these were determined to be the more accurate representation of conductivity based on the shallow well screens. For those wells analyzed within the deeper groundwater

zone (AF-53, AF-54, AF-55, and AF-57), hydraulic conductivities ranged from 1.6 to 63 feet/day. In the cases of the deep wells, the ”slug-in” and ”slug-out” tests were averaged since there was enough head above the top of the well screen to not significantly alter results.

Groundwater velocity in the former UST area ranges between 0.02 and 2.3 feet/day, based on hydraulic conductivities calculated from the December 2009 slug test data. The slug test results and calculated groundwater velocities are included in Table 7-2. Slug test analysis summary reports for each of the wells are included in Appendix A.

7.1.3 Surface Water Flow

Two piezometers were installed within the drainage ditch located directly southeast of former USTs 25 and 26. The first piezometer was installed directly southeast of the former UST 25 and 26 location. The second piezometer was installed within the same drainage ditch on the south side of Lightning Road near monitor wells AF-57 and AF-58. Both piezometers were installed in June 2010. The piezometers were installed to determine the relationship between the water levels in the drainage ditch to those in the shallow portion of the upper unconsolidated groundwater aquifer. Data show that the drainage ditches are discharge points for shallow groundwater and that surface water levels mimic shallow groundwater conditions.

Information for Pond 35, located to the northeast of the former UST 25 and 26 area, is included in Appendix J. The pond is upgradient of the former UST 25 and 26 impacts and there are clean shallow/deep well pairs between the pond and the impacted area. Therefore, there was no additional sampling of pond surface water or sediments.

7.2 Contaminant Impacts

7.2.1 VOC Impacts

7.2.1.1 Soil Impacts

TCE impacts in soil across the HAA-17 area from the 2009 investigation are presented on Figure 7-5. VOC impacts in soil from the investigations conducted from 2006 through 2009 are presented on Figure 7-6.

Former UST 25/26 Area

Previous investigations conducted in the former UST area from 2000 through 2007 did not include sampling of soil and a TCE source area was not located during these investigations. To locate likely source areas, an MIP investigation was conducted in the former UST area in November 2009. The locations, where the highest impacts had previously been identified, were targeted for initial MIP points. Initial borings were installed proximate to previous boring locations AF-52 and AF-53, where the highest historical concentrations of TCE were observed, and proximate to previous boring locations AF-45 and 55, where concentrations above 1 milligram per liter (mg/L) had been detected. The MIP borings were advanced to the confining layer (approximately 50 feet bgs). MIP locations and ECD responses are included on Figure 7-4. The largest ECD responses were in the 30- to 40-foot interval at locations AF-53, AF-61, and AF-15. All of these points are located near the southwest corner of Building 1345. Temporary borings for soil sampling were installed in December 2009 at locations and depths where MIP responses identified potential areas of concern. Based on elevated ECD response values, temporary borings were installed at locations H17-AF-01, H17-AF-15, H17-AF-53, H17-AF-61, and H17-AF-62. Temporary borings were also installed at other locations in the former UST area as well as across the HAA-17 investigation area at locations selected based on the results from previous investigations. The results for temporary borings that were installed in other areas are discussed in subsequent sections.

Soil analytical results from the temporary boring investigation activities are included in Table 7-3. TCE was detected in seven saturated soil samples above the notification concentration, but none of the concentrations were at levels indicative of a source. The highest concentration of TCE detected from any of these boring locations was at H17-AF-101 in a sample collected from 24 to 25 feet bgs. The concentration at this sample interval was 0.94 milligrams per kilogram (mg/kg), a value above HSRA Notification Standards, but not indicative of a potential source area. The remaining concentrations detected in soils ranged from below laboratory detection limits to 0.81 mg/kg. TCE concentrations in soil are presented on Figure 7-5. VOC concentrations in soil are presented on Figure 7-6.

Building 1290

As part of the Building 1290 investigation conducted in 2007 and 2008, soil samples were taken around the former weapons cleaning facility, around Building 1336, in the former UST area, and east of the canal for laboratory analysis of VOCs. VOCs were not detected above notification concentrations in any of the samples.

Based on detections of TCE in groundwater at 1.08 µg/L in 1290-MW-8D (screened 40 to 45 feet bgs) and 2.5 µg/L at DPT location 1290-DPT-03 (44 to 46 feet bgs) south of the former dry cleaner, soil and groundwater samples were taken at three locations in the same area (H17-FD1 through 3) in December 2009. Soil samples from each location were screened with a PID from surface to total depth. There were no PID readings indicating the presence of VOCs. Soil samples taken for laboratory analysis from 44 to 45 feet bgs at each location did not contain VOC concentrations above notification concentrations or indicative of a source area.

Purge Facility

During soil sampling conducted in 2006, surface and subsurface soil samples taken above the water table did not contain VOCs, SVOCs, or metals above notification concentrations.

The soil samples were taken in 2009 at saturated and unsaturated depths. The only compounds detected above HSRA notification concentrations were total xylenes, which were detected at a concentration of 55 mg/kg at H17-PF3, in a sample from 2 to 3 feet bgs. Other petroleum-based compounds were also detected in the same sample, none of which exceeded applicable HSRA Notification Standards.

No definitive source areas were identified during the two sampling events in the purge facility area. Soil sampling results are provided on Figure 7-6.

7.2.1.2 Groundwater Impacts

VOC impacts in groundwater across the HAA-17 investigation area are presented on Figure 7-7. VOC impacts in groundwater in the former UST 25 and 26 area are presented on Figure 7-8. The extent of TCE impacts in groundwater is presented on Figure 7-9.

UST Area

In the investigations of the TCE impacts to groundwater in the former USTs 25 and 26 area that were conducted from 1999 through 2006, TCE was detected at a maximum of 7,730 µg/L in analyses from temporary boring AF-52 (24 – 29 ft bgs) in December 2000. TCE was detected above the Type 1 RRS at this location in all samples from 14 to 44 ft bgs. TCE concentrations above 1,000 µg/L were limited to AF-52 and AF-43/53, located between Building 1345 and the former tank locations, and AF-45/55 and AF-63, located at the other end of the former tank cavities.

For vertical delineation, groundwater samples were collected from 12 temporary boring locations to evaluate TCE concentrations in deep groundwater (all samples were collected from the 41- to 45-foot bgs interval). There were no significant detections of VOCs in the samples taken at depth in the UST 25/26 area. The groundwater analytical results from DPT samples taken in 2009 are included in Table 7-4.

Samples taken from monitor wells in the former UST 25 and 26 area during the 2010 investigation continued to show impacts from TCE. However, concentrations had decreased substantially relative to results from sampling conducted from 1999 through 2007. Analytical results from samples taken in 2010 from shallow and deep monitor wells are included in Tables 7-5 and 7-6, respectively.

Area East of Former UST 25 and 26 and Drainage Canal

Previous investigations had resulted in detections of VOCs, specifically TCE, in the area east of the canal. TCE was detected predominantly in samples 5 to 15 feet bgs. An exception was boring AF-51, where TCE was detected at 90.3 µg/L in a sample taken from 25 to 30 feet bgs. H17-MW-20D (screened from 18 to 28 feet bgs) was installed on the east edge of the canal proximate to the AF-51 location. The sample from this monitor well contained 280 µg/L of TCE.

In addition, two monitor well pairs (H17-MW-21S/D and 22S/D) were installed farther east along Perimeter Road to provide delineation of the eastern extent of impacts. VOCs were not detected in any of the samples from the four monitor wells, thereby providing delineation of the extent of VOC impacts in the eastern portion of the investigation area.

Monitor well H17-MW-19S (screened from 5 to 15 feet bgs) was installed on the east side of the canal south of the former UST 25/26 area to provide delineation of the southern extent of VOCs in the shallow interval. VOCs were not detected in samples from this well. Results from borings and monitor wells in the same area indicated that there were no VOC impacts in the deeper interval.

Purge Facility

Minor VOC impacts were observed in the purge facility area during the 2006 investigation. Low levels of petroleum hydrocarbons had been detected in samples from shallow borings and monitor wells. TCE and its degradation products were detected in the deeper interval (40 to 45 feet bgs). In subsequent sampling in 2009 and 2010, TCE and its degradation products were again detected in the 40- to 45-foot bgs

interval. The highest TCE concentration in 2009 and 2010 was 14 µg/L in deep well AT-MW-01. Monitor well H17-MW-18D, which was installed south of the purge facility during the 2010 investigation, contained 2.6 µg/L of TCE in a sample taken in May 2010. The sample also contained 5.2 µg/L of benzene.

Building 1290

Monitor wells previously installed and sampled as part of the Building 1290 investigation were sampled again in 2010. VOCs were not detected in samples from the monitor wells around the building or in monitor wells west, north, and south of the building, thereby providing delineation of the extent of VOC impacts in the western portion of the investigation area.

Former Dry Cleaner

In the area of the former dry cleaner (east of Building 1290), TCE and 1,1-DCE had been detected at 1.08 and 7.77 µg/L, respectively, in 1290-MW-8D during the investigation in 2007. During the same investigation, 1,1-DCE had been detected at 6.01 µg/L in 1290-MW-8S. TCE was not detected and 1,1-DCE was detected at 5.1 µg/L when well 1290-MW-8D was sampled in 2010. Chlorinated VOCs were not detected in samples taken from shallow well 1290-MW-8S in 2010.

Groundwater samples were also taken in the area through temporary borings in 2006 and 2010. A DPT sample taken south of the former dry cleaner location near the weapons cleaning facility at a depth of 44 to 46 feet bgs (1290-DPT-03) contained 2.5 µg/L of TCE. Samples were also taken with three temporary borings in the area in 2010. Screening from surface to total depth with a PID did not result in any VOC detections. Because of the detections at depth in 2006, samples were taken from 41 to 45 feet bgs at each boring location for laboratory analysis. TCE and its degradation products were detected in all three samples. TCE was detected in one sample at 1.1 µg/L. The highest chlorinated VOC concentration was 7.1 µg/L of 1,1-DCA in H17-FD2.

Results from the groundwater investigation in December 2009 are summarized in Table 7-4. Groundwater analytical results from shallow permanent monitor wells are summarized in Table 7-5, while analytical results from deep permanent monitor wells are summarized in Table 7-6.

Other Locations in the Investigation Area

Monitor wells 1290-MW-15S and 16S are both shallow wells located west of the former UST 25/26 area. The wells were previously sampled in 2007 during the Building 1290

investigation. In 2007, vinyl chloride and 1,1-DCE were detected in 1290-MW-16S at 54.7 and 27.3 µg/L, respectively, and 1,1-DCE was detected in 1290-MW-15S at 9.35 µg/L. 1,1-DCE was not detected in samples taken in 2010. The only VOC detected was 1.3 µg/L of vinyl chloride in the sample from 1290-MW-16S.

Monitor well pair 1290-MW-9S/D was installed and sampled as part of the Building 1290 investigation in 2007. The wells are located in the north-central portion of the investigation area. Other than acetone, a common laboratory artifact, VOCs were not detected in 1290-MW-9D. The only VOC detected in 1290-MW-9S was 1,1-DCE at a concentration of 1.8 µg/L.

Monitor well pair H17-MW-17S/D was installed in 2010 to delineate the northern extent of the investigation area. Chlorinated VOCs were not detected in deep well H17-MW-17D. The only detection was 1.9 µg/L of carbon disulfide. In shallow well H17-MW-17S, the only VOC detected was chloroethane at 0.69 µg/L.

7.2.1.3 Surface Water and Sediment Sampling Results

During CSR investigation activities, surface water bodies in the form of drainage ditches were observed on the HAA-17 site. Drainage ditches are located throughout the HAA-17 site, but most do not have consistent surface water. One drainage ditch, located immediately adjacent to the southeast of former USTs 25 and 26, has consistently held surface water and drains to the southwest away from Pond 35 (Wilson Gate Lake). Based on the proximity of the ditch to the former USTs and the existing shallow TCE-impacted groundwater plume, surface water samples were collected. A total of three samples were collected from the ditch, one from an upstream location, one from within the plume, and one from a downstream location. Upon review of the surface water sampling results, it does not appear that surface waters in the area of the HAA-17 site are impacted. There were no detected VOCs in surface water above applicable maximum contaminant levels (MCLs) or instream water quality standards.

Sediment samples were also collected from the same locations along the canal located adjacent to former USTs 25 and 26. There were no exceedances of applicable sediment/soil standards in the three sediment samples and it does not appear that sediment within the drainage canal is impacted with VOCs.

7.2.2 Metals Impacts

Additional investigation was conducted around the purge facility to evaluate chromium and barium detections in groundwater samples taken in 2006. Chromium was not detected above the practical quantitation limit (PQL) in any sample. Barium was detected above the PQL in samples from monitor wells AT-MW-01 and AT-MW-04 at concentrations of 28 and 37 µg/L, respectively. Metals concentrations in groundwater are presented on Figure 7-10.

8. Human Health Risk Assessment

The human health risk assessment for HAA-17 (former USTs 25 and 26, purge facility, and Building 1290) evaluated the potential risks to human health through the derivation of risk reduction standards for each of the detected constituents in soil and groundwater and an evaluation of the potential exposure to constituents detected in surface water and sediment and the migration of volatile constituents into buildings at the site.

The remainder of this section is organized as follows:

- Potential receptors
- Exposure assessment
- Toxicity assessment
- Risk reduction standards
- Vapor intrusion evaluation
- Summary and conclusions

8.1 Potential Receptors

HAAF is an active military installation encompassing areas of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. HAA-17 is located in the northern portion of HAAF. This portion of HAAF does not include residential housing. Therefore, under the current configuration of HAAF-17, only military and civilian workers would be expected to be present. The site itself is predominantly covered with buildings and paved areas. There are limited areas of bare soil. Thus, direct contact with soil is not expected to occur to an appreciable extent.

Like many military bases, access to the site is restricted. Thus, trespassers are not expected at the site under current conditions. Similarly, it is unlikely that the site will be used for permanent, residential housing. The HAAF Master Plan indicates that the nearest family housing is 1 mile to the southeast of this site.

Groundwater at the site is not used as a potable water supply. The deeper Floridan aquifer is used as the potable water supply, although the wells are hydrogeologically upgradient of the site. The wells may also be used for non-potable purposes.

The depth to water is approximately 8 to 10 feet bgs. Construction workers may contact groundwater during construction activities. Additionally, volatile organics present in the groundwater and soil could potentially migrate into buildings at the site.

8.2 Exposure Assessment

In accordance with Georgia EPD guidance, default criteria for Types 1 and 3 RRS were identified. For Types 2 and 4 RRS, exposure factors from Georgia EPD guidance (EPD 1999) or USEPA guidance (USEPA 1997a) were used. These RRS values are therefore considered to be conservative (i.e., protective of human health) in that exposure to the identified and/or calculated concentrations is considered unlikely to cause significant carcinogenic or noncarcinogenic effects. Thus, if the soil or groundwater concentrations are less than the conservative RRS, additional exposure scenarios will not be evaluated.

8.2.1 Soil Exposure

In accordance with Georgia EPD guidance, the Types 2 and 4 RRS for carcinogenic effects from potential exposure to soil are typically calculated using Equation 6 from Part B of the Risk Assessment Guidance for Superfund (RAGS Part B) (USEPA 1991). The Types 2 and 4 RRS for noncarcinogenic effects from potential exposure to soil are typically calculated using Equation 7 from RAGS Part B. Table 8-1 provides the equations used to derive the soil RRS.

The exposure factors used to calculate the Type 2 (i.e., residential) RRS include a body weight of 70 kilograms (kg) for an adult and 15 kg for a child, 30 years of exposure duration for an adult and six years for a child, a soil intake rate of 114 milligrams per day (mg/day) for an adult and 200 mg/day for a child, and an exposure period of 350 days per year.

The exposure factors used to calculate Type 4 (i.e., commercial) RRS are based on industrial exposure and include a body weight of 70 kg, 25 years of exposure duration, a 50 mg/day soil intake rate, and an exposure period of 250 days per year. Exposure factors for both Types 2 and 4 RRS were obtained from Georgia EPD guidance (EPD 1999; USEPA 1997a).

8.2.2 Groundwater Exposure

Types 2 and 4 RRS for carcinogenic and noncarcinogenic effects from potential exposure to groundwater were calculated using Equations 1 and 2, respectively, from RAGS Part B (USEPA 1991). The lowest criterion from Equation 1 or 2 was used as the Types 2 and 4 RRS. The equations and parameter values used to calculate the RRS for exposure to groundwater are presented in Table 8-2.

The exposure factors used to calculate the Type 2 (i.e., residential) RRS include a body weight of 70 kg for an adult and 15 kg for a child, 30 years of exposure duration for an adult and six years for a child, a 2-liter-per-day (L/day) water intake rate for an adult and 1 L/day for a child, and an exposure period of 350 days per year.

The exposure factors used to calculate Type 4 (i.e., commercial) RRS are based on industrial exposure and include a body weight of 70 kg, 25 years of exposure duration, a 1 L/day water intake rate, and an exposure period of 250 days per year. Exposure factors for both Types 2 and 4 RRS were obtained from Georgia EPD guidance (EPD 1999; USEPA 1997a).

8.3 Toxicity Assessment

The toxicity values used to calculate Type 2 and Type 4 RRS (i.e., cancer slope factors and reference doses) were obtained from the USEPA Regional Screening Level (RSL) table (USEPA 2010a). The values included in the RSL table were verified in the primary sources which are included in Table 8-3. The toxicity values are presented in Table 8-3.

8.4 Risk Reduction Standards

The primary objective of the risk evaluation was to compile the available analytical data on the regulated substances that were detected in soil and groundwater and to compare the data to the RRS. The Type 1 RRS was identified, and residential exposure factors were used to calculate the Type 2 RRS in soil and groundwater. The Type 3 RRS also was identified for soil and groundwater, and industrial exposure factors were used to calculate the Type 4 RRS for soil and groundwater. The physical and chemical properties used to derive the soil RRS are provided in Table 8-4.

In addition, the potential for the detected soil constituents to leach from soil to groundwater was evaluated by calculating soil screening levels protective of

groundwater using USEPA methodology (1996, 2002b). For these calculations, the groundwater RRS were used as the groundwater criteria.

8.4.1 Soil Risk Reduction Standards

The Type 1 RRS (default residential criteria) for soil were determined using the definition in Rule 391-3-19-.07(6)(c) of Georgia EPD guidance (1999). The concentrations of constituents of concern (COCs) detected in soil above the water table were compared to the Type 1 RRS. The Type 1 RRS were determined as follows. If a criterion was available in Table 2 of Appendix III of the guidance, that RRS was used. Otherwise, the largest of the Appendix I or 100 times the Type 1 groundwater criteria were compared to the calculated Type 1 carcinogenic and noncarcinogenic criteria, and the least of these values was selected as the Type 1 RRS. The default criteria were obtained from the draft revisions to the RRS. Table 8-5 lists the maximum detected constituent concentration above the water table, the location of the maximum, and the Type 1 soil RRS. None of the constituents were detected at maximum concentrations greater than the Type 1 soil RRS.

8.4.2 Groundwater Risk Reduction Standards

The calculation of RRS for groundwater included the integration of the exposure and toxicity assessments. Information on potential exposures and toxicity values was combined to generate the Types 2 and 4 RRS. These criteria, as well as the default criteria for Types 1 and 3 RRS, were then compared to the maximum detected concentrations of the constituents detected in the shallow groundwater at the site.

8.4.2.1 Residential Risk Reduction Standards

Residential RRS were calculated for groundwater as described above. The following sections further describe the Types 1 and 2 RRS.

The Type 1 RRS (default residential criteria) for groundwater are defined in Rule 391-3-19-.07(6)(b) (EPD 1999) as the concentrations listed in Table 1 of Appendix III (if available for the COCs). The comparison of maximum detected groundwater concentrations to the Type 1 RRS and the source of the Type 1 RRS are presented in Table 8-6. Ten constituents were detected at concentrations greater than the Type 1 RRS for groundwater: acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE (listed in Table 8-6 as 1,2-DCE), cis-1,2-DCE, cis-1,3-dichloropropene, trans-1,3-

dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride.

The equations and input parameters used to calculate the Type 2 RRS for the COCs in groundwater are presented in Table 8-2. Calculations of the Type 2 carcinogenic and noncarcinogenic criteria for groundwater are included in Table 8-7 for adults and in Table 8-8 for children. For each detected constituent, the least of the carcinogenic and noncarcinogenic criteria was then selected as the criterion for each receptor (adults and children), and the lower of the adult or child criterion was selected as the Type 2 RRS. A comparison of the maximum detected concentrations to the Type 2 RRS, along with the source of the Type 2 RRS, is included in Table 8-6 for groundwater. Acetone, benzene, total 1,2-DCE (listed in Table 8-6 as 1,2-DCE), cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS (Table 8-6).

8.4.2.2 Nonresidential Risk Reduction Standards

Nonresidential RRS were calculated for groundwater as previously described in this risk evaluation. The following sections further describe the Types 3 and 4 RRS.

The Type 3 RRS for groundwater are identical to the Type 1 RRS used for the residential scenario, according to Georgia EPD guidance (EPD 1999). A comparison of maximum detected concentrations to the Type 3 RRS for groundwater is presented in Table 8-9. This comparison shows that 10 constituents were detected at concentrations greater than the Type 3 RRS for groundwater: acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE (listed in Table 8-9 as 1,2-DCE), cis-1,2-DCE, cis-1,3-dichloropropene, trans-1,2-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride.

The equations and input parameters used to calculate a Type 4 RRS for groundwater are presented in Table 8-2. Calculations of the Type 4 carcinogenic and noncarcinogenic criteria for groundwater are included in Table 8-10. For each constituent, the lesser of these two criteria was selected as the Type 4 RRS for groundwater. The comparison of maximum detected concentrations to Type 4 RRS for groundwater presented in Table 8-9 shows that only benzene, total 1,2-DCE (listed in Table 8-9 as 1,2-DCE), TCE, and vinyl chloride exceed the Type 4 RRS for groundwater.

8.4.3 Sediment

Ten constituents were detected in sediments: acetone, benzene, 2-butanone, cyclohexane, ethylbenzene, isopropylbenzene, tert-butyl methyl ether, tetrachloroethene, toluene, and xylenes. The maximum detected concentrations were compared to the soil Type 1 RRS, as shown in Table 8-11. All of the detected concentrations were well below the Type 1 RRS. Therefore, exposure to sediments is not expected to pose an unacceptable risk to receptors at the site.

8.4.4 Surface Water

Acetone and benzene were the only constituents detected in surface water at the site. As shown in Table 8-12, the maximum detected concentrations were compared to the Georgia in-stream standard for benzene and the groundwater Type 1 RRS for acetone as there is no in-stream standard available. The maximum concentrations are less than their respective standards. Therefore, exposure to surface water is not expected to pose an unacceptable risk to receptors at the site.

8.5 Vapor Intrusion Evaluation

Volatile organic compounds were detected in soil and groundwater at the site. These constituents have the potential to migrate from the subsurface into indoor air of buildings at the site. This pathway was evaluated using the 2010 groundwater data. The constituents present in soil were detected at concentrations less than the Type 1 RRS and therefore were not evaluated further. Additionally, the focus of the current investigation was the detection of constituents in groundwater.

The USEPA version of the Johnson and Ettinger vapor intrusion model is a conservative model that can be used to evaluate the potential for vapor intrusion, to estimate the potential associated risk, and to calculate risk-based medium-specific concentrations, including both industrial and residential settings. The USEPA vapor intrusion model was run using the maximum concentrations of each detected volatile organic constituent in groundwater on site.

The following groundwater constituents were evaluated for the vapor intrusion pathway: acetone, carbon disulfide, chloromethane, 1,2-dichlorobenzene, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, 1,2-dichloropropane, cis-1,3-dichloropropene, trans-1,3-dichloropropene, 4-methyl-2-pentnanone, and TCE. Table 8-13 presents the data used in the groundwater vapor intrusion evaluation.

8.5.1 Vapor Intrusion Modeling

The maximum detected concentrations of constituents of potential concern in current groundwater were carried through to the second phase of the evaluation: use of the USEPA advanced level Johnson and Ettinger model for vapor intrusion. Modeling was performed for two different receptors: commercial worker and residential receptor. The use of the maximum concentration presents a conservative estimate of risk and hazard because it is unlikely that the concentrations migrating into a building will be only at the maximum concentration. An average concentration would be more representative of what would be contributing to the concentrations of vapors migrating into a building.

The following assumptions were used to evaluate potential exposures of both residential receptors and site workers. Although military personnel are at this site for a short time, the standard default exposure assumptions for residential receptors were used in this assessment.

- The USEPA (2004a) default values for building size, 1,000,000 square centimeters or 1,076 square feet, was used for the building size.
- A building air exchange rate or ventilation rate of 0.48 exchanges per hour was used in the evaluation. This value was selected based on information provided by USEPA (2004a). In general, ventilation rates will be higher in summer months. Specifically, air exchange rate distributions vary depending on season and climatic region. Therefore, a ventilation rate specific for the season and region was selected. USEPA (2004a) reported that "for the winter season and warmest climatic area [Region 4 (southern California, Texas, Florida, and Georgia)], the 10th, 50th, and 90th percentile values were 0.24, 0.48 and 1.13 air exchanges per hour, respectively. Although building air exchange rates would be higher during the summer months, vapor intrusion during winter months (when house depressurization is expected to be most significant) would be of greatest concern." Therefore, a ventilation rate of 0.48 corresponding to the 50th percentile in the region was used in this assessment.
- The foundation thickness was set at 10 centimeters, and a ceiling height of 8 feet (244 centimeters) was used for the resident and the site worker. Other default assumptions were used in the model (USEPA 2004a).
- The depth to shallow groundwater used in the assessment was 8 feet (241.92 centimeters) below grade. Because groundwater is encountered at 8 feet or 241.92 centimeters, this was the depth entered as the depth to the bottom of contamination.

- An average groundwater temperature of 19.5° Celsius was estimated based on USEPA guidance (2004a).
- A soil type of sand was selected to represent the soils, although lenses of clay and silt were observed during field investigations at the site.
- A soil-building pressure differential (delta P) of 40 grams per centimeter per square second (g/cm-s2) was used (USEPA 2004a).
- An adult body weight of 70 kg was used (USEPA 1991).
- An exposure frequency of 250 days/year (5 workdays/week for 50 weeks/year) was used for a site worker and 350 days/year for a hypothetical future resident (USEPA 1991).
- An exposure duration of 25 years was used for a site worker and 30 years for a hypothetical future site resident (USEPA 1991).

8.5.2 Current Groundwater

The current maximum concentrations in groundwater were used to estimate indoor air concentrations. Table 8-14 presents the input parameters for residential exposure, Table 8-15 provides the results of the intermediate calculations, and Table 8-16 presents the results of the residential calculations. The corresponding tables for the site worker are presented in Tables 8-17 through 8-19. The results of the vapor intrusion modeling are as follows:

- Adult resident: excess lifetime cancer risk (ELCR) = 1×10^{-6} and a noncancer hazard index (HI) = 0.03
- Site worker: ELCR = 2×10^{-7} and a noncancer HI = 0.006

The ELCRs were less than the EPD HSRA benchmark of 1×10^{-5}. The noncancer HIs were well below the benchmark of 1. The risk driver was TCE. Based on these results, it is unlikely that the vapor intrusion pathway will pose significant risks to human health.

8.6 Summary and Conclusions

This human health risk assessment for the HAA-17 area evaluated the potential risks to human health by comparing the maximum detected soil and groundwater constituents to the Types 1 through 4 RRS. The potential exposure to constituents detected in sediment also was evaluated by comparing the maximum detected concentrations to the Type 1 RRS. Potential exposure to constituents in surface water were compared to the Georgia in-stream standards. Finally, the vapor migration from groundwater into buildings at the site was evaluated.

The data for soil collected above groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards. Therefore, the derivation of Types 2 through 4 RRS was not conducted.

The shallow groundwater data were compared to the Types 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, cis-1,3-dichloropropene, trans-1,2-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, total 1,2-DCE, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.

The maximum sediment concentrations were compared to the soil Type 1 RRS. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were compared to the Georgia in-stream standard if available, or the Type 1 groundwater RRS. There were no exceedances of the surface water standards. Therefore, it is unlikely that the constituents detected in sediment and surface water were present at concentrations that would pose a risk to human health.

The current groundwater concentrations were evaluated for the vapor intrusion pathway. The maximum detected current groundwater concentrations were used in the calculations as a conservative measure. The results indicated that the risks were less than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were well below the benchmark of 1.

9. Ecological Risk Assessment

This section presents the Ecological Risk Assessment (ERA) conducted for the site pursuant to Georgia EPD CSR guidance and HSRA regulations. The objective of the ERA is to evaluate whether ecological receptors may be adversely affected by exposure to site-related constituents. This ERA is intended to provide input for risk management decision-making for the site, while maintaining a conservative approach that is protective of wildlife populations and communities.

9.1 Introduction

HAA-17 is located in the northern portion of HAAF – an active military installation located in Savannah, Georgia, consisting of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. A site map depicting the HAA-17 area is included as Figure 4-1. HAAF is expected to continue in its current role as an adjunct military facility to Fort Stewart. The facility, as a whole, is gated and fenced. Therefore, primarily military personnel or military contractors have access. According to sources at HAAF, there are no future development plans for the area.

As recommended by Georgia EPD regulations for a CSR under HSRA regulations, this ERA was conducted in accordance with USEPA guidance. As such, the ERA is comprised of a screening-level ERA (SLERA) followed by a baseline ERA (BERA) (USEPA 1997). Typically, the SLERA provides a conservative estimate of potential ecological risks and compensates for uncertainty by incorporating numerous conservative assumptions. The purpose of the SLERA is to determine whether there is a high probability that there are no ecologically significant risks; otherwise, a BERA is warranted (USEPA 1997, 2000, 2001a). If a BERA is indicated, the information developed in the SLERA is used to help focus the BERA. The BERA is more complex than the SLERA and uses more realistic and site-specific information about potential exposures and effects in order to evaluate potential ecological risks.

The approach used to assess ecological risks associated with the site is based on the USEPA eight-step process (USEPA 1997, 2000, 2001a), as summarized on Figure 9-1. An expanded view of the USEPA eight-step process is provided on Figure 9-2. As illustrated on Figure 9-2, the USEPA paradigm divides Step 3 into two parts, Step 3a and Step 3b (USEPA 2000). Step 3a allows for a more refined analysis of available information, while Steps 3b and beyond focus on further evaluation(s) for only those receptors, media, and constituents identified in previous steps. USEPA (2000) states

that “for the majority of sites, ERA activities will cease after the completion of Step 3a.” The details of each step and how they relate to the site ERA are described in the sections below.

The ERA process culminates in clearly defined scientific management decision points (SMDPs). The SMDPs represent critical steps where risk management decision-making occurs. Generally, the following types of decisions are considered at the SMDPs:

1. Whether the available information is adequate to conclude that ecological risks (if any) are negligible and, therefore, there is no need for further action on the basis of ecological risk.
2. Whether the available information is inadequate to make a decision at this point and the ecological risk assessment process should continue.
3. Whether the available information indicates a potential for adverse ecological effects and a more thorough assessment or remediation is warranted.

The remainder of the ERA is organized as follows:

- Ecological Risk Assessment Dataset Evaluation
- Screening-Level Ecological Risk Assessment
- Baseline Ecological Risk Assessment

9.2 Ecological Risk Assessment Dataset Evaluation

A statistical summary of the surface soil data (0 to 1 foot bgs) is provided in Table 9-1. This table includes the number of detected samples, the minimum and maximum detected samples, the range of the detection limits, the maximum concentration, and the location of the maximum detected concentration.

9.3 Screening-Level Ecological Risk Assessment

This SLERA conservatively estimates potential risks that may affect ecological receptors. The SLERA typically compensates for uncertainty in a precautionary manner by incorporating numerous conservative assumptions. The outcome of the SLERA is the conclusion that either there is a high probability that ecologically significant risks are not posed to receptors, or that further assessment is warranted. Consistent with USEPA (1997) guidance, the SLERA for the site is comprised of the following steps:

- Screening-Level Problem Formation

- Screening-Level Ecological Effects Evaluation
- Screening-Level Exposure Estimate and Risk Calculation
- Scientific Management Decision Point

9.3.1 Screening-Level Problem Formulation

Step 1 of the SLERA consists of both a screening-level problem formulation and a screening-level ecological effects evaluation. The screening-level problem formulation presents the background information, including a site characterization, potential ecological receptors, ecosystem characteristics, and information regarding the sources and effects of the potential chemicals (USEPA 1998). This information is used to develop a Conceptual Site Model (CSM) that illustrates the potential relationships between stressors, pathways, and receptors.

The following sections are included in the problem formulation:

- Environmental Setting
- Toxicological Profiles
- Media of Concern
- Potentially Exposed Receptors
- Potentially Complete Exposure Pathways
- Assessment and Measurement Endpoints

9.3.1.1 *Environmental Setting*

This section describes the ecological habitat at the site based on observations made by Law personnel during a site visit conducted in January 2002 and by ARCADIS personnel in October 2008. Photographs of the site are presented in Appendix K, Photo Log.

The principal habitat types of the site are managed grassland and neighboring forestland. Managed grasslands are typified by planted grass of one or more species maintained by mowing, application of fertilizers, landscaping, etc. Common fauna includes earthworms and other soil-dwelling invertebrates, birds such as robins, and mammals, such as shrews, rabbits, and raccoons. Beyond the drainage ditches, the neighboring forestland consists mainly of mixed hardwood bottomland forest with a few interspersed pines. Characteristic flora of this habitat type includes long-leaf pine (*Pinus pa/ustris*), loblolly pine (*P.taeda*), sweetgum (*Liquidambar styraciflua*), blackgum

(*Nyssa sy/vatica*), live oak (*Quercus virginiana*), southern red oak (*Q. facata*), white oak (*Q. alba*), water oak (*Q. nigra*), and magnolia (*Magnolia sp.*). Saw-palmetto (*Serrenoa repens*) and honeysuckle (*lonicera sp.*) are commonly found as two of several understory plants. Fauna includes a wide variety of birds and mammals, including white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), and gray squirrel (*Scurius carolinensis*).

Overall, topography gently slopes toward the Springfield Canal located 3,600 feet to the west. The Springfield Canal flows southwest before emptying into the Little Ogeechee River. Five and a half miles downstream of HAAF, the Little Ogeechee River is classified, according to the Georgia Water Use Classifications and Water Quality Standards, as a water "generally supporting shellfish" (Georgia EPD 2009). Depth to the water table at the site varies from approximately 2 feet to 5 feet bgs with a gradient on the slope of about 0.02 ft/ft. The surficial aquifer is separated from the Floridian aquifer by a thick confining unit of clay. Recharge to the surficial aquifer occurs through precipitation on land directly above the aquifer.

Drainage ditches are located throughout the HAA-17 site, but most have intermittent flow that is governed by precipitation runoff. Only one drainage ditch, located to the southeast of former USTs 25 and 26, has any consistent amount of surface water. In general, the ditches remain dry during periods of droughts and swell during rain events. As a result, they appear to be intermittent drainage conveyance, and any existing water provides at best an extremely marginal habitat for aquatic life.

9.3.1.2 *Toxicological Profiles*

The mechanisms of ecotoxicity for constituents detected at the site vary depending on a wide range of factors, such as concentrations, receptor species, the exposure route (e.g., ingestion or direct contact), and physical factors (e.g., pH, temperature, oxygen levels, water hardness). Some of the effects that could be observed in wildlife are mortality, reduced reproductive ability, decreased fertility, decreased offspring survival, alteration of immune and behavioral function, decreased hatching success of eggs/larvae, and retarded growth (USEPA 2001b). The remainder of this subsection discusses mechanisms of ecotoxicity for chemicals detected at the site. These descriptions are presented without consideration of concentrations because the descriptions are intended to convey an understanding of potential effects, rather than to describe the concentrations at which these effects might occur.

Volatile Organic Compounds – VOCs tend to attenuate rapidly in surface soil, sediment surface water, and groundwater as a result of their inherent volatility. Although the effects of VOCs on ecological receptors are not well-understood, there have been extensive inhalation studies of the effects of VOCs under laboratory conditions. Inhaled volatile organics are typically metabolized in the body (often the liver), which may cause liver damage (depending on the organism) or the release of more toxic secondary metabolites. VOCs or their metabolites may also cause neurological damage, and many are mutagenic or carcinogenic. Additionally, some VOCs are fetotoxic and/or teratogenic (USEPA 2005).

Polynuclear Aromatic Hydrocarbons (PAHs) – PAHs (such as benzo(a)pyrene, chrysene, fluoranthene, and pyrene) are often released as a result of human activities, such as the incomplete combustion of fossil fuels or other organic materials. Some of these compounds are persistent and are known to be mammalian carcinogens, though the ecological effects of PAHs that are not carcinogenic are not well understood. Most PAHs are sorbed to solid particles in the environment, which radically reduces the bioavailability and toxicity of the sorbed PAHs. PAHs may be transformed by biotic and abiotic processes in the environment, and may bioaccumulate. PAHs have been shown to cause changes in liver enzymes and to perturb cell membranes but, in general, are not viewed as acutely toxic. Sublethal effects attributed to PAHs in aquatic animals include reduced reproductive ability and fertility, developmental abnormalities, delayed or retarded maturation, histological changes, and carcinogenesis (Neff 1985).

Inorganics – Many trace inorganics (e.g., cobalt, copper, chromium, iron, manganese, nickel, molybdenum, selenium, and zinc) are important in plant and animal nutrition, but the optimal concentration ranges are usually narrow (Leland and Kuwabara 1985). Other inorganics are nonessential, such as lead, cadmium, and mercury, and are toxic to receptors at very low concentrations. Mechanisms of toxicity depend on the nature of the reactivity of the inorganic itself (Efroymson et al. 1997a). They may alter or inhibit enzyme activity, interfere with deoxyribonucleic acid (DNA) synthesis or electron transport, or block uptake of essential elements. Little is known about mechanisms of toxicity of constituents in earthworms (Efroymson et al. 1997b).

In general, trace metals (such as arsenic, barium, beryllium, chromium, copper, lead, and zinc) are better understood than some classes of organic compounds with respect to their potential adverse impacts on aquatic wildlife (Newman 1998). Chromium, copper, and zinc are essential for healthy enzyme function, and some organisms cannot survive without these metals. However, these naturally occurring constituents may cause adverse effects when exposure occurs at concentrations that significantly

exceed background concentrations. The toxicity and effects of trace metals may be greatly influenced by pH, hardness, and organic carbon content of the water in which they occur (Leland and Kuwabara 1985). Imbalances in the essential trace metals may cause a decrease in photosynthetic ability, poor spawning/hatching success, teratogenesis, susceptibility to predation and disease, reduced growth, mortality, histopathological changes, organ dysfunction of the liver or kidneys, neurological defects, changes in respiration and osmoregulation, and anemia. Some metals may bioaccumulate, but this mechanism is thought to be a less important ecological concern. Because these constituents are naturally occurring, many organisms have a capacity (albeit limited) to biotransform and/or eliminate naturally occurring inorganics (Newman 1998; Leland and Kuwabara 1985).

9.3.1.3 *Media of Concern*

The site-specific CSM is depicted on Figure 9-3. Surface soil is the primary environmental media at the site with which contact by ecological receptors is possible. There are no direct seeps of groundwater to soil that could serve as foraging grounds for ecological receptors. Furthermore, as discussed in Section 9.3.1.1, the drainage ditches only temporarily hold surface water and, for the most part, they are covered with terrestrial grass. The limited portions of the drainage ditches that do hold water do not provide suitable habitat for aquatic life (i.e., fish and benthic invertebrates). The lack of aquatic life in the drainage ditches prevents any upper-trophic level birds or mammals from foraging in the ditches. As a result, groundwater, surface water, and sediment are not considered to be direct and complete exposure pathways and are therefore not identified as media of concern for ecological receptors at the site.

9.3.1.4 Potentially Exposed Receptors

The identification of the categories of receptors most likely to be exposed helps to focus the SLERA. Potentially exposed receptors are designated based on the available habitat associated with the site. Section 9.3.1.1 provides a description of the habitat associated with the site as well as wildlife observed or potentially present in these habitats. As described above and presented in the CSM, potentially exposed receptors include terrestrial wildlife (i.e., mammals and birds), soil invertebrates, and terrestrial plants.

As part of the identification of potentially exposed receptors, it is necessary to identify protected species that may be exposed to site constituents. The listings of threatened and endangered as well as tracked, rare, and unusual species were obtained from the Georgia Department of Natural Resources (GADNR 2010) and the U.S. Fish and

Wildlife Service (USFW 2010) online databases for Chatham County. No threatened or endangered species were identified at the site, and the habitat present at the site was found not to be suitable to support threatened or endangered species. The list of threatened and endangered species and habitats is presented in Table 9-2.

9.3.1.5 Potentially Complete Exposure Pathways

A complete exposure pathway is "one in which the chemical can be traced or expected to travel from the source to a receptor that can be affected by the chemicals" (USEPA 2001b). Therefore, a constituent, its release and migration from the source, a receptor, and the mechanisms of toxicity of that constituent must be demonstrated before a complete exposure pathway can be identified. The table below summarizes the potential exposure routes for the site, which are also illustrated in the CSM (Figure 9-3).

Ecological Community	Possible Exposure Routes
Terrestrial wildlife (i.e., birds and mammals)	Incidental ingestion of surface soil Direct contact of surface soil Ingestion of prey tissue
Terrestrial soil invertebrates (i.e., earthworms)	Direct contact of surface soil Ingestion of surface soil
Terrestrial plants	Direct contact of surface soil

9.3.1.6 Assessment and Measurement Endpoints

Assessment endpoints are the explicit expression of the ecological values to be protected (USEPA 1997). The selection of assessment endpoints depends on knowledge of the receiving environment, knowledge about the constituents released (including their toxicological properties and the relevant concentrations), and understanding of the values that will drive risk management decisions (Suter et al. 1995). Consistent with USEPA (1998) guidance, two elements are required to define an assessment endpoint: the specific valued ecological entity and the characteristic of the entity that is important to protect.

USEPA guidance provides that Superfund remedial actions should be designed not to protect organisms on an individual basis, but to protect local populations and communities of biota (USEPA 1999). Thus, the first management principle for conducting an ecological risk assessment is to provide a basis for selecting a response

action “that will result in the recovery and/or maintenance of healthy local populations/communities of ecological receptors that are or should be present at or near the site” (USEPA 1999). The USEPA (1999) guidance also notes that, as an exception to this rule, threatened and endangered species may be evaluated on an individual basis. In concept, however, this focus is justified on the basis that, given the stressed nature of a threatened and endangered population, effects on individuals could impact the local population.

Assessment endpoints for the site include the following:

- Sustainability of mammal populations
- Sustainability of avian populations
- Sustainability of terrestrial plant communities
- Sustainability of terrestrial soil invertebrate communities (i.e., earthworms)

Because direct measurement of assessment endpoints is often difficult or infeasible, surrogate endpoints, called measurement endpoints, are used to provide the information necessary to evaluate whether the values associated with the assessment endpoint are being protected. A measurement endpoint is defined as a measurable ecological characteristic and/or response to a stressor (USEPA 1998). Hazard quotients (HQs) serve as the measurement endpoints for the SLERA. The HQ is the ratio of the exposure point concentration (EPC) of a given constituent to its ecotoxicity screening value (ESV). Exposure point concentrations in the SLERA are identified as the maximum concentrations of chemicals.

ESVs are chemical concentrations in environmental media below which there is negligible risk to receptors exposed to those media (USEPA 2000). ESVs are generally based on effects such as mortality and reproductive impairment, and are assumed to be widely applicable to sites around the United States for screening purposes (USEPA 1997). For most constituents and receptors, the data available to generate ESVs are limited and related to effects on individual organisms, rather than subpopulations or communities. Given these limitations, conservative assumptions are used to ensure that the ESVs are protective. Where ESVs are published, users are cautioned to recognize that such screening values do not constitute remediation goals, since they are sometimes based on highly conservative exposure assumptions and/or wildlife receptors that may not be applicable to a particular site. As such, their robustness and biological association with the assessment endpoint may be limited.

9.3.2 Screening-Level Ecological Effects Evaluation

The screening-level ecological effects evaluation (also Step 1 of the SLERA) involves the identification of ESVs for each detected constituent at the site. As described above, ESVs are based on conservative assumptions to ensure that the values are protective and applicable to a wide variety of sites. Regardless, ESVs provide a starting point for the SLERA as they provide an indication of the worst-case measure of the potential for adverse impacts.

The ESVs used for this SLERA are consistent with Georgia EPD recommendations for HSRA and were identified from the USEPA Region 4 (R4) Ecological Screening Values (USEPA 2001b). These values represent only highly conservative ESVs, as is appropriate for a SLERA (USEPA 1997, 1998, 2000). These ESVs do not represent the range of ESVs that are available from a variety of other regulatory and scientific sources.

9.3.3 Screening-Level Exposure Estimate and Risk Calculation

The screening-level exposure assessment is Step 2 of the SLERA process and consists of the identification of exposure estimates, risk calculations, and the evaluation of uncertainties (USEPA 1997, 2001a). These form the lines of evidence necessary to support the SMDP at the conclusion of the SLERA.

Exposure estimates for the SLERA were identified using the maximum detected concentrations for each constituent (USEPA 1997, USEPA 2001a). This conservative approach is appropriate for a SLERA. Exposure estimates are presented in Table 9-3.

Potential risks to ecological receptors are calculated by dividing the exposure estimates (i.e., the maximum detected concentrations) by the conservative ESVs. The resulting ratio, the HQ, is a highly conservative surrogate for one or more of the assessment endpoints identified in Section 9.3.1.5. HQs equal to or less than a value of 1 (to one significant figure) indicate that adverse ecological impacts are unlikely (USEPA 1997). HQs greater than 1 indicate that further evaluation is warranted. Therefore, the constituents with HQs greater than 1 are carried forward as constituents of potential ecological concern (COPECs) into Step 3a of the BERA.

Results of the SLERA are presented in Table 9-3 and indicate that only two constituents (toluene and chromium) in surface soil (0 to 1 feet bgs) had maximum HQs greater than 1, and therefore were identified as COPECs.

9.3.4 Scientific Management Decision Point

The SMDP represents a critical step in the ecological risk assessment process where risk management decision-making occurs (Figures 9-1 and 9-2). Generally, the following types of decisions are considered at this SMDP:

- Whether the available information is adequate to conclude that ecological risks are negligible and, therefore, there is no need for remediation to mitigate ecological risks.
- Whether the available information is not adequate to make a decision at this point, and the ecological risk assessment process should continue.
- Whether the available information indicates a potential for adverse ecological effects, and a more thorough assessment or remediation is warranted.

As described above, the SLERA for the site identified two COPECs; therefore, the possibility of adverse effects to ecological receptors cannot be ruled out, and the initial step of a BERA is warranted.

9.4 Baseline Ecological Risk Assessment

The BERA is designed to more realistically identify the nature and extent of ecological risks to support informed risk management decision-making (USEPA 1997, 2000). This approach contrasts with the SLERA, which is designed to conservatively rule out further evaluation of constituents and media that clearly do not pose a significant ecological risk. As indicated on Figure 9-1 and Figure 9-2, the BERA process involves numerous steps. These steps are executed in a manner appropriate to the conditions at any individual site (USEPA 1997, 2000).

The USEPA process shows that the BERA begins with Step 3, Problem Formulation (Figure 9-1). A more detailed look at Step 3 shows that it is typically divided into Step 3a and Step 3b (Figure 9-2). “Step 3a serves to introduce information to refine the risk estimates from Steps 1 and 2. For the majority of sites, ERA activities will cease after Step 3a” (USEPA 2000). Step 3a provides a “reality check” so that “sites that do not warrant further study are not carried forward” (USEPA 2000). Step 3b, the “additional problem formulation,” is initiated only for those sites that warrant further study.

This section presents Step 3a of the BERA for the site. This approach is consistent with the following ecological risk assessment guidance and guidelines:

- ECO-Update: Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments (USEPA 2001a)
- Ecological Risk Assessment Guidance for Superfund (USEPA 1997)
- Guidelines for Ecological Risk Assessment (USEPA 1998)

Step 3a of the BERA is a refinement of the Step 2 exposure estimates and risk characterization, and focused only on the COPECs and media that progress beyond the SLERA. Since further ecological evaluation was indicated, it was conducted with the intent to be an "incremental iteration of exposure, effects, and risk characterization" (USEPA 2001a). Therefore, the assumptions used in Step 3a are refinements of the conservative estimates of exposure and toxicological impacts to site-specific (or receptor-specific) estimates of exposure and alternative screening values (ASVs) (USEPA 2001b). Risks were recalculated using these refined assumptions to further eliminate the number of COPECs retained for further evaluation in the BERA process.

Step 3a involves the following:

- Refinement of COPECs
- Refinement of Exposure Point Concentrations
- Alternative Screening Values
- Risk Characterization
- Uncertainties
- Summary and Conclusions

9.4.1 Refinement of COPECs

Refinement of the COPECs identified in the SLERA is necessary to help focus and streamline further risk assessment activities for the constituents that pose the greatest potential risk to ecological receptors (USEPA 1997, 2001a). It is intended as an "incremental iteration of exposure, effects, and risk characterization" (USEPA 2001a). The outcome of this screening is that constituents are either excluded as COPECs or retained for further evaluation in the BERA process. The process for refining the COPECs generally consists of two steps: 1) comparing maximum detected concentrations with background concentrations; and 2) using the upper confidence limits (UCLs) of the mean of the data as the EPCs and comparing those to alternative ESVs.

9.4.1.1 Comparison to Background

The comparison to background step is applicable for inorganic constituents, and is not applicable for organic constituents, under most circumstances, because these constituents are not naturally occurring. Soil background levels for inorganics (Table 9-4) were identified from the Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002) and were incorporated into the BERA.

9.4.1.2 Exposure Point Concentrations

EPCs based on the UCLs of the mean of the data could not be calculated because of the small sample size. Therefore, the maximum concentrations were again used to screen the data.

9.4.1.3 Alternative Screening Values

An expanded list of ecological screening values (ASVs) was used to screen the data to provide insight into the type or likelihood of impacts (e.g., acute vs. chronic effects, threshold effect levels, severe effect levels, median effect levels, probable effect levels). ASVs used for this BERA were obtained from the following sources:

- USEPA Ecological Soil Screening Levels (EcoSSLs) (2005)
- USEPA Region 5 Ecological Screening Levels (USEPA 2003)

A summary of the refined HQs and their likelihood for adverse impacts based on direct contact with surface soil is discussed in the following section and is presented in Table 9-4.

9.4.2 Risk Characterization

This section presents the results of the ecological risk assessment and discusses the potential risks to ecological receptors. Potential risks are discussed quantitatively, based on the relative magnitude of the HQs.

The two COPECs from the SLERA were carried forward into the BERA. These COPECs were based on small datasets; therefore, the UCLs could not be calculated and the maximum concentrations were used to screen the data. For chromium, the maximum concentration is below the background concentration (7.7 mg/kg); thus chromium is not considered to be a site-related COPEC. The Region 5 ecological screening value for soil was used to screen the maximum detected concentration of

toluene at the site and the resulting HQ is below 1. Therefore, no potential risks exist for ecological receptors exposed to surface soil at the site.

9.4.3 Uncertainties

A BERA is designed to evaluate potential risks to ecological receptors by incorporating iterative changes that reduce uncertainty (when possible). All risk assessments have some level of uncertainty associated with them; however, it is generally not substantial enough to affect the results. Uncertainties associated with this ERA are summarized in Table 9-5.

9.4.4 Summary and Conclusions

This ERA presents the results of a SLERA and Step 3a BERA for ecological receptors at the site based on HQs. An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2004). An HQ greater than 1 indicates that adverse effects of some kind may have occurred in the past or may occur in the future and that further analysis of potential ecological risks may be warranted.

Risks were characterized for ecological receptors at the site by considering direct contact with COPECs in surface soil (0 to 1 foot bgs). Additional media including surface water, sediment, and groundwater were ruled out because they do not present a complete exposure pathway to ecological receptors at the site.

Overall potential ecological risks do not exist for exposure to site surface soil. All chemicals have HQs below 1. Based on this assessment, there are no ecological risks at the site and no further evaluation is required.

10. Public Involvement

The opportunity for public involvement will be provided in accordance with the Georgia EPD Hazardous Site Response Act, Chapter 391-3-19-.06(5). A copy of the CSR will be made available to the public at the Live Oak Public Library, Chatham County, located at 2002 Bull Street, Savannah, GA 31419. Additionally, a public notice announcing that the CSR is available for inspection by the public will be published in the *Savannah Daily News* and in *The Frontline*, a Fort Stewart publication. A statement including the following will be included in the public notice:

> "*The Georgia Environmental Protection Division, Department of Natural Resources, State of Georgia (GAEPD) has placed this site on the Hazardous Sites Inventory pursuant to its authority under the Hazardous Site Response Act and Rules promulgated thereunder. As required by the Rules for Hazardous Site Response, the responsible party for this site was required to investigate the site and submit a compliance status report to GAEPD summarizing the results of that investigation. GAEPD is currently reviewing the compliance status report to determine if corrective action is needed for regulated substances that have been released at this site. Before GAEPD decides whether corrective action is needed, the public has the opportunity to review the compliance status report and provide comments to GAEPD about the report.*"

The notice will include the announcement of a 30-day public comment period beginning on the date of the notice and will provide the location of the above-referenced library where the CSR can be viewed. The public notice will also provide the name, address, and telephone number of the responsible party or its designated contact person and the Georgia EPD contact person to whom written or oral comments can be made. Georgia EPD will be provided with an exact copy of the public notice within 15 days of the publication of the notice. The Chatham County government will be provided with the same written notice within 7 days of the submittal of the CSR to Georgia EPD.

11. Conclusions and Conceptual Site Model

Multiple soil and groundwater investigations demonstrate that the former UST tank farm area is likely the primary source of TCE impacts in the investigation area. Investigations conducted in the areas upgradient of former USTs 25 and 26 yielded a few low detections of dissolved TCE concentrations in groundwater, thus providing little evidence of a source upgradient of the former UST locations. The available historic and current groundwater data show minor amounts of TCE and degradation compounds across the investigation area. Concentrations of TCE in groundwater upgradient of former USTs 25 and 26 do not appear to be related to the more extensive impacts found near the former USTs. The areas west of the groundwater divide around and north, south, and west of Building 1290 do not have detections of any VOCs.

In the former UST 25 and 26 area, TCE impacts have been observed predominantly at the 20- to 30-foot and 30- to 40-foot bgs intervals. The areal extent of the TCE impacts decreases with depth, and the highest TCE concentrations occur predominantly at the 20- to 30-foot interval, which is just above the upper clay layer identified in the geophysical survey. MIP points and boring samples from locations near the southwest corner of Building 1345 had the highest TCE impacts.

Based on the results of monitor well sampling, the downgradient and upgradient extents of TCE- and VOC-impacted groundwater have been delineated. The northern extent of the investigation area has also been delineated. In monitor well H17-MW-18D at the southern extent of the investigation area, TCE and three other VOCs were detected at concentrations less than 6 µg/L. The TCE concentration was below the Type 1 RRS and USEPA MCL.

Based on the results of this and previous investigations, the following conclusions are presented:

- With one exception, the full extent of TCE in groundwater at HAA-17 is delineated horizontally and vertically. The exception is the area south of the purge facility where TCE was detected at 2.6 µg/L in H17-MW-18D.
- The highest TCE impacts were around the former UST 25 and 26 area. Although diffuse, the source appears centered in the area of historic soil borings AF-52 and AF-53 located between former USTs 25 and 26 and Building 1345.

- Other minor TCE and VOC impacts were detected in the purge facility area and the former dry cleaner area. These impacts are upgradient of the former UST 25 and 26 area and appear to be unrelated to those at the former tank farm.
- Other constituents detected in groundwater during investigations in related areas were inorganic materials barium and chromium, which were detected in the area of the purge facility. None of the concentrations exceeded the Type 1 RRS.
- The data for soil collected above the groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards. Therefore, the derivation of Types 2 through 4 RRS was not conducted.
- The shallow groundwater data were compared to the Types 1 through 4 RRS. Acetone, benzene, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, trans-1,2-dichloropropene, 2-hexanone, methylene chloride, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, 2-hexanone, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.
- The maximum sediment and surface water concentrations were compared to the soil and groundwater Type 1 RRS, respectively. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were all below the Type 1 groundwater RRS. Therefore, it is unlikely that the constituents detected in sediment and groundwater are present at concentrations that would pose a risk to human health.
- The current groundwater concentrations were evaluated for the vapor intrusion pathway. The maximum detected current groundwater concentrations were used in the calculations as a conservative measure. The results indicated that the risks were less than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were well below the benchmark of 1.
- Based on the assessment of impacted areas and ecological conditions, there are no ecological risks at the site.

12. References

ARCADIS 2009. Sampling and Analysis Plan and Quality Assurance Project Plan, Ft. Stewart Military Reservation and Hunter Army Airfield, Georgia. February.

Earth Tech, Inc. 1999. Corrective Action Plan–Part A Report for Facility ID: 9-025008, Underground Storage Tanks 25 & 26 at Building 1343, Hunter Army Airfield, Georgia. March.

Huddleson, Paul. 1988. "A Revision of the Lithostratigraphic Units of the Coastal Plain of Georgia," Georgia Geologic Survey Bulletin 104.

Lewis, Lisa L. 2008. Corrective Action Plan (CAP)-Part B Monitoring Report, No Further Action Required, Hunter AAF, Former UST # 25 and # 26, Building 1343, Hunter Army Airfield, Chatham County, GA, facility ID: 9025008*1. August.

SAIC. 2000. Corrective Action Plan–Part B for USTs 25 & 26, Facility ID #9-025008, Building 1343, Hunter Army Airfield, Georgia. February.

SAIC. 2001. Corrective Action Plan–Part B Addendum #1 for USTs 25 & 26, Facility ID #9-025008, Building 1343, Hunter Army Airfield, Georgia, June.

SAIC. 2003. Corrective Action Plan–Part B Addendum #2 for USTs 25 & 26, Facility ID #9-025008,Building 1343, Hunter Army Airfield, Georgia. April.

SAIC. 2004. Data Summary Report for the 2003 Vertical-Profile Investigation for USTs 25 & 26, Facility ID#9-025008, Building 1343, Hunter Army Airfield, Georgia. April.

SAIC. 2007. Site Investigation Report for the Purge Facility at Hunter Army Airfield, Georgia. February.

SAIC. 2008. Data Summary Report for the TCE Plume at Building 1290, Hunter Army Airfield, Georgia. August.

Solutions to Environmental Problems, Inc. 2007. Final Completion Report for Interim Remedial Action at the 260th Quartermaster Motor Pool, Building 1345, Underground Storage Tanks 25 and 26, Facility ID #9-025008, Hunter Army

Airfield, Savannah, Georgia. August.

World Health Organization. 2002. Concise International Chemical Assessment Document 46 - Carbon Disulfide. Geneva, Switzerland.

Human Health References

Agency for Toxic Substances and Disease Registry (ATSDR). 2011. Minimal Risk Levels for Hazardous Substances. Available at: http://www.atsdr.cdc.gov/mrls/index.html.

California Environmental Protection Agency (CalEPA). 2011. Office of Environmental Health Hazard Assessment (OEHHA). Online Toxicity Criteria Database. URL: http://www.oehha.org/risk/ChemicalDB/index.asp.

Georgia Department of Natural Resources, Environmental Protection Division. 1999. Hazardous Site Response Act, Georgia Department of Natural Resources, Chapter 391-3-19.

Lyman, W.J., W.F. Rheel, and D.H. Rosenblatt. 1990. Handbook of Chemical Property Estimation Methods. McGraw-Hill, Inc., New York, NY.

New Jersey Department of Environmental Protection (NJDEP). 2009. Derivation of Ingestion-Based Soil Remediation Criterion for Cr^{+6} Based on the NTP Chronic Bioassay Data for Sodium Dichromate Dihydrate. April 9. URL: http://www.state.nj.us/dep/dsr/chromium/soil-cleanup-derivation.pdf.

United States Army. 2006. Master Plan Map, Fort Stewart Department of Public Works.

United States Department of Energy (USDOE). 2010. Office of Environmental Management. Risk Assessment Information System (RAIS) database. Internet access: http://risk.lsd.ornl.gov/index.shtml.

United States Environmental Protection Agency (USEPA). 1987. Processes, Coefficients, and Models for Simulation Toxic Organics and Heavy Metals in Surface Waters. EPA/600/3-87/015. Office of Research and Development, Athens, GA.

United States Environmental Protection Agency (USEPA). 1991. Human Health

Evaluation Manual, Part B: Development of Risk-based Preliminary Remediation Goals. Office of Solid Waste and Emergency Response, Washington, DC. OSWER Directive 9285.7-01B. December 13.

United States Environmental Protection Agency (USEPA). 1996. Soil Screening Guidance: Technical Background Document. Office of Emergency and Remedial Response. Washington, DC. OSWER No. 9355.4-17A. http://www.epa.gov/superfund/health/conmedia/soil/introtbd.htm.

United States Environmental Protection Agency (USEPA). 1997a. Exposure Factors Handbook. Exposure Assessment Group, Office of Research and Development. National Center for Environmental Assessment, Washington, DC. EPA 600/P-95-002. 002FA. August.

United States Environmental Protection Agency (USEPA). 1997b. Health Effects Assessment Summary Tables (HEAST), FY-1997 Update. Office of Research and Development and Office of Emergency and Remedial Response, Washington, DC. EPA/540/R-97/036. OERR 9200.6-303(97-1). NTIS No. PB97-921199. July.

United States Environmental Protection Agency (USEPA). 1997c. Superfund Chemical Database Matrix, Windows Version 1.0 (1997). Office of Emergency and Remedial Response, Washington, DC. September.

United States Environmental Protection Agency (USEPA). 2001. WATER9. Version 1.0.0. Office of Air Quality Planning and Standards, Research Triangle Park, NC. URL: http://www.epa.gov/ttn/chief/software/water/index.html.

United States Environmental Protection Agency (USEPA). 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December 2002. URL: http://www.epa.gov/superfund/health/conmedia/soil/index.htm.

United States Environmental Protection Agency (USEPA). 2004a. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings. Office of Emergency and Remedial Response, Washington, DC. Revised February 22.

United States Environmental Protection Agency (USEPA). 2004b. Superfund Chemical Database Matrix. Office of Emergency and Remedial Response, U.S.

Environmental Protection Agency. Washington, DC. January.

United States Environmental Protection Agency (USEPA). 2006. Provisional Peer Reviewed Toxicity Values for cis-1,2-Dichloroethylene (CASRN 156-59-2). Superfund Health Risk Technical Support Center, National Center for Environmental Assessment, Office of Research and Development, Cincinnati, Ohio. March 1.

United States Environmental Protection Agency (USEPA). 2009. Estimation Programs Interface Suite™ for Microsoft® Windows, v 4.00. Office of Pollution Prevention and Toxics, Washington DC, as referenced by USEPA 2010b.

United States Environmental Protection Agency (USEPA). 2011a. Integrated Risk Information System (IRIS). Office of Research and Development, National Center of Environmental Assessment. Internet access: http://www.epa.gov/iris.

U.S. Environmental Protection Agency. 2010a. Regional Screening Table, Internet access: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm. December 2010.

U.S. Environmental Protection Agency (USEPA). 2004. EPI Suite software, Version 3.12. Office of Pollution Prevention and Toxics, Washington, DC. August 17. Available for free download at internet address: http://www.epa.gov/opptintr/exposure/docs/episuitedl.htm.

EPI (Henry Win) 1 = EPI (HenryWin) Experimental value; citation not listed

Ecological Risk References

ARCADIS. 2008. Visit by Mr. Andrew Davis , PE to the site.

Efroymson, R.A., M.E. Will, G.W. Suter II, and A.C. Wooten. 1997a. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision. Oak Ridge National Laboratory, Oak Ridge, TN. 128 pp. ES/ER/TM-85/R3.

Efroymson, R.A., M.E. Will, and G.W. Suter II. 1997b. Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Processes: 1997 Revision. Oak Ridge National Laboratory,

Oak Ridge TN. ES/ER/TM-126/R2.

Georgia Department of Natural Resources (DNR). 2009. 391-3-6-.03 Water Use Classification and Water Quality Standards (February 2009), online at http://rules.sos.state.ga.us/docs/.

Georgia Department of Natural Resources (DNR). 2010. Protected Species List by County (May 2010), online at http://www.georgiawildlife.com/node/1370.

Georgia Department of Natural Resources (DNR). 2009. 391-3-19-.06(3) Compliance Status Report (December 2009), online at http://rules.sos.state.ga.us/docs.

Law. 2002. Revised Final Compliance Status Report, Former Fire Training Area (HIS Number 10395) at Hunter Army Airfield, Georgia. February.

Leland, H.V., and J.S. Kuwabara. 1985. Trace Metals. In: Fundamentals of Aquatic Toxicology. G.M. Rand and S.R. Petrochelli, eds. Taylor and Francis Publishing.

Neff, J.M. 1985. Polycyclic Aromatic Hydrocarbons. In: Fundamentals of Aquatic Toxicology. G.M. Rand and S.R. Petrochelli, eds. Taylor and Francis Publishing.

Newman, M. 1998. Fundamentals of Ecotoxicology. Ann Arbor Press, Ann Arbor, Michigan.

Suter, G.W, B.W. Cornaby, C.T. Hadden, R.N. Hull, M. Stack, F.A. Zafran. 1995. An Approach for Balancing Health and Ecological Risks at Hazardous Waste Facilities. Risk Analysis 15(2):221-231.

U.S. Environmental Protection Agency (USEPA). 1992. Guidance for Data Usability in Risk Assessment (Part A). Office of Emergency and Remedial Response. Publication 9285.7–09A. PB92-963356. http://www.epa.gov/superfund/programs/risk/datause/parta.htm.

USEPA. 1997. Ecological Risk Assessment Guidance for Superfund – Process for Designing and Conducting Ecological Risk Assessments. Environmental Response Team. June.

USEPA. 1998. Guidelines for Ecological Assessment. Office of Research and Development, EPA/630/R-95/002FA. April.

USEPA. 1999. "Issuance of Final Guidance: Ecological Risk Assessment and Risk Management Principles for Superfund Sites." Memorandum from Stephen D. Luftig, Director of the Office of Emergency and Remedial Response. October 7. http://www.epa.gov/superfund/programs/risk/ecorisk/final99.pdf.

USEPA. 2000. Amended Guidance on Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders. Memorandum from Ted W. Simon, Ph.D., Office of Technical Services. June 23. http://risk.lsd.ornl.gov/homepage/ecoproc2.pdf.

USEPA. 2001a. ECO-Update: Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments. Accessed 2001. http://www.epa.gov/superfund/programs/risk/ecoup/slera0601.pdf.

USEPA. 2001b. Region 4 Ecological Risk Assessment Bulletins - Supplement to RAGS. http://www.epa.gov/region4/waste/ots/ecolbul.htm.

USEPA. 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. OSWER 9285-6-10. December.

USEPA. 2003. Region 5 Ecological Screening Levels. August. http://www.epa.gov/Region5/rcraca/edql.htm.

USEPA. 2004. EPI Suite Software, Version 3.12. Office of Pollution Prevention and Toxics, Washington DC. August 17. Available at: http://www.epa.gov/opptintr/exposure/docs/episuitedl.htm.

USEPA. 2005. Ecological Soil Screening Levels (EcoSSLs). Office of Emergency and Remedial Response. April. http://www.epa.gov/superfund/programs/risk/ecorisk/ecossl.htm.

USEPA. 2010b. ProUCL 4.00.05. National Exposure Research Lab, EPA, Las Vegas, Nevada.

U.S. Fish and Wildlife Service (USFWS). 2010. Endangered Species Program online database http://www.fws.gov/endangered/.

U.S. Geological Survey (USGS). 2010. Clarke, J.S., and Painter, J.A.. 2010. Hydrology, water quality, and water-supply potential of ponds at Hunter Army Airfield, Chatham County, Georgia, November 2008 –July 2009: U.S.

Geological Survey Scientific Investigations Report 2009–5265, 34 p.

ARCADIS MALCOLM PIRNIE

Tables

ARCADIS MALCOLM PIRNIE

Figures

ARCADIS MALCOLM PIRNIE

Appendix A

Slug Test Analysis Reports

ARCADIS MALCOLM PIRNIE

Appendix B

MIP Logs

ARCADIS MALCOLM PIRNIE

Appendix C

Laboratory Analytical Reports

ARCADIS MALCOLM PIRNIE

Appendix D

Monitor Well Installation Logs

ARCADIS MALCOLM PIRNIE

Appendix E

Lithologic Boring Logs

ARCADIS MALCOLM PIRNIE

Appendix F

Groundwater Field Sampling Sheets

ARCADIS MALCOLM PIRNIE

Appendix G

NFA Letter for UST 25/26

ARCADIS MALCOLM PIRNIE

Appendix H

Background Data

ARCADIS MALCOLM PIRNIE

Appendix I

Sampling and Analysis Procedures

ARCADIS MALCOLM PIRNIE

Appendix J

Pond 35 Information

ARCADIS MALCOLM PIRNIE

Appendix K

Photo Log

Appendix L

CSR Checklist

ARCADIS MALCOLM PIRNIE

Appendix M

Historical Site Use Data

ARCADIS MALCOLM PIRNIE

Electronic Certification

The electronic copy is complete, identical to the paper copy, and virus free.

C. Scott Bostian, P.E.

4/13/2011

Date

ARCADIS MALCOLM PIRNIE

Eric Killenbeck
Senior Geologist

C. Scott Bostian, PE
Senior Engineer

Charles A. Bertz, PE
Senior Project Manager

Final
Compliance Status Report
HAA-17 – Installation-Wide
Groundwater including TCE
Groundwater Contamination

Prepared for:
U.S. Army Environmental Command

Prepared by:
ARCADIS
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919.854.1282
Fax 919.854.5448

Our Ref.:
GP08HAFS.H17C.DPCSR

Date:
April 2011

1. Qualified Groundwater Scientist Certification

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields as demonstrated by state registration, professional certifications, or completion of accredited university courses that enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.



(Signature) 4/13/11

C. Scott Bostian, P.E.
(Typed Name)

Table 5-1
Well Construction Summary
HAA-17
Hunter Army Airfield - Savannah, Ga

Well Number	Date Installed	Boring Depth (ft BGS)	Screened Interval (ft BGS)	Shallow/ Deep	Type of Completion	Coordinates		Elevation	
						Northing	Easting	Ground Surface (ft above MSL)	Top of Casing (ft above MSL)
CAP Part B Investigations - 1999 through 2002									
AF-01	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734225.9	979645.8	23.28	23.02
AF-02[a]	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734103.1	979556.8	22.10	21.94
AF-03[a]	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734073.7	979520.8	22.30	22.27
AF-04	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734170.3	979621.5	22.32	22.24
AF-05	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734139.4	979582.8	22.46	22.21
AF-06	5/5/1999	12.2	2.0 - 12.0	S	temporary	734083.6	979514.9	22.70	--
AF-07	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734145.2	979553.5	23.13	c
AF-08	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734249.3	979597.6	23.30	23.10
AF-09	5/4/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734211.3	979549.8	23.11	22.93
AF-10	5/4/1999	12.7	2.5 - 12.5	S	temporary	734145.0	979465.7	23.23	--
AF-11[a]	5/5/1999	11.2	1.0 - 11.0	S	¾-in. PVC	734167.5	979635.8	22.03	21.89
AF-12R	2006*	13.5	3.5-13.5	S	¾-in. PVC	--	--	--	22.56
AF-13	5/7/1999	12.7	2.5 . 12.5	S	¾-in. PVC	734243.8	979567.5	23.01	22.79
AF-14	5/7/1999	11.5	1.4 - 11.4	S	¾-in. PVC	734284.6	979617.1	23.33	23.04
AF-15	5/7/1999	11.6	1.5 - 11.5	S	¾-in. PVC	734253.8	979641.2	23.30	23.28
AF-16	5/7/1999	12.0	1.6 - 11.6	S	¾-in. PVC	734223.1	979682.2	22.06	22.17
AF-17	5/8/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734023.6	979539.9	18.64	18.93
AF-18[a]	5/8/1999	11.5	1.3 - 11.3	S	¾-in. PVC	734051.2	979518.0	19.06	20.13
AF-19[a]	5/8/1999	11.5	1.4 - 11.4	S	¾-in. PVC	734038.7	979490.1	19.52	19.68
AF-20	5/8/1999	13.2	3.0 - 13.0	S	¾-in. PVC	734086.2	979494.3	23.03	22.84
AF-23	5/8/1999	13.2	3.0 - 13.0	S	¾-in. PVC	734097.6	979456.3	23.43	23.25
AF-24	5/8/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734199.1	979473.2	23.10	22.85
AF-25[a]	5/11/1999	10.5	0.1 - 10.1	S	¾-in. PVC	734020.3	979470.5	14.75	15.03
AF-26[a]	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	733986.7	979544.0	16.90	17.65
AF-27[a]	5/11/1999	11.5	1.0 - 11.0	S	¾-in. PVC	734005.7	979516.5	16.40	16.50
AF-28[a]	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734078.7	979600.9	16.80	17.11
AF-29	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734007.4	979587.2	18.90	19.06
AF-33[a]	9/25/1999	12.0	2.3 - 11.8	S	¾-in. PVC	734123.3	979659.9	17.60	18.07
AF-34	9/25/1999	11.0	1.4 - 10.9	S	¾-in. PVC	734007.3	979725.8	17.60	17.85
AF-35	9/25/1999	11.0	1.2 - 10.7	S	¾-in. PVC	734025.2	979654.0	17.30	17.63
AF-36[a]	9/25/1999	11.0	1.4 - 10.9	S	¾-in. PVC	733954.7	979592.5	17.40	17.52
AF-37[a]	9/25/1999	15.0	4.4 - 14.3	S	¾-in. PVC	733952.5	979506.7	19.80	20.06
AF-38[a]	9/25/1999	14.5	4.1 - 14.0	S	¾-in. PVC	733990.4	979405.8	20.00	20.14
AF-39[a]	9/25/1999	15.0	4.4 - 14.3	S	¾-in. PVC	734050.5	979442.7	21.70	22.12
AF-40	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734141.9	979553.1	23.05	22.78
AF-41	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734087	979512.4	22.70	22.33
AF-42	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734000.8	979521.2	16.40	19.03
AF-53	2/4/2001	31.0	20.0 - 30.0	D	2-in. PVC	734303.9	979627	23.31	22.93
AF-54	2/4/2001	43.5	32.4 - 42.4	D	2-in. PVC	734233	979549.9	22.77	22.43
AF-55	2/4/2001	34.5	24.0 - 34.0	D	2-in. PVC	734156.9	979457.5	23.14	22.76
AF-56	2/4/2001	31.0	19.9 - 29.9	D	2-in. PVC	734329.8	979653.2	23.27	22.99
AF-57	2/3/2001	65.0	57.8 - 62.8	D	2-in. PVC	733996.5	979367.3	19.90	22.21
AF-58	2/5/2001	13.0	2.7 - 12.7	S	2-in. PVC	733926.8	979430.7	19.70	22.32
AF-59	2/4/2001	14.9	2.3 - 12.3	S	2-in. PVC	734201.6	979649.7	22.69	22.33
AF-60	2/5/2001	31.0	20.0 - 30.0	D	2-in. PVC	734225.2	979434.6	24.08	23.77
AF-61	2/5/2001	31.0	20.0 - 30.0	D	2-in. PVC	734331.1	979603.5	23.79	23.47
AF-62	2/5/2001	14.0	3.0 - 13.0	S	2-in. PVC	734234	979686.7	22.60	22.11
AF-68	10/18/2002	45.0	34.5 - 39.5	D	2-in. PVC	734234.3	979386.5	24.4	24.26
AF-69	10/17/2002	50.0	40.2 - 45.2	D	2-in. PVC	734337.7	979548.7	24.7	23.83
AF-70	10/16/2002	21.0	15.0 - 20.0	S	2-in. PVC	734417	979673.9	24.4	24
AF-71	10/17/2002	21.0	15.3 - 20.3	S	2-in. PVC	734418.8	979801.5	23.2	23.06
AF-72	10/16/2002	13.0	2.5 - 12.5	S	2-in. PVC	734017.7	979773.2	17.8	17.72
Purge Facility Investigation - 2006									
AT-MW-1	5/11/2006	46	40.30-45.30	D	2-in. PVC	734082.46	978196.3	--	31.61
AT-MW-2	5/10/2006	12.5	2.30-12.30	S	2-in. PVC	734072.89	978194.26	--	31.86
AT-MW-3	5/10/2006	12.5	2.20-12.20	S	2-in. PVC	734120.33	978147.94	--	32.09
AT-MW-4	5/10/2006	12.5	2.30-12.30	S	2-in. PVC	734064.29	978272.61	--	32.79
AT-MW-5	5/11/2006	12.5	2.30-12.30	S	2-in. PVC	734063.42	978127.61	--	33.03

Table 5-1
Well Construction Summary
HAA-17
Hunter Army Airfield - Savannah, Ga

Well Number	Date Installed	Boring Depth (ft BGS)	Screened Interval (ft BGS)	Shallow/ Deep	Type of Completion	Coordinates		Elevation	
						Northing	Easting	Ground Surface (ft above MSL)	Top of Casing (ft above MSL)
Building 1290 Investigation - 2007									
1290-MW-01D	5/2007*	--	19.95 - 29.95	D	1-in. PVC	735508.85	977102.38	36.6	36.40
1290-MW-01S	5/2007*	--	5.72 - 15.72	S	1-in. PVC	735513.98	977100.64	36.7	36.43
1290-MW-02D	5/2007*	--	19.90 - 29.90	D	1-in. PVC	735420.23	977197.88	36.3	36.05
1290-MW-02S	5/2007*	--	4.3 - 14.3	S	1-in. PVC	735423.99	977200.2	36.3	36.05
1290-MW-03D	5/2007*	--	19.59 - 29.58	D	1-in. PVC	735289.03	977078.47	36.5	b
1290-MW-03S	5/2007*	--	6.70 - 11.70	S	1-in. PVC	735288.83	977069.78	36.6	b
1290-MW-04D	5/2007*	--	19.91 - 29.91	D	1-in. PVC	735425.92	977010.12	36.5	36.25
1290-MW-04S	5/2007*	--	5.66 - 15.66	S	1-in. PVC	735420.53	977010.17	36.5	36.23
1290-MW-05D	5/2007*	--	20.0 - 30.0	D	1-in. PVC	735980.3	977154.14	36.4	36.16
1290-MW-05S	5/2007*	--	5.80 - 15.80	S	1-in. PVC	735978.23	977150.92	36.4	36.14
1290-MW-06S	5/2007*	--	4.0 - 9.0	S	1-in. PVC	736237.28	977477.86	36.3	36.03
1290-MW-07D	5/2007*	--	24.6 - 34.6	D	1-in. PVC	734742.41	975723.2	37.2	36.93
1290-MW-07S	5/2007*	--	7.89 - 17.89	S	1-in. PVC	734738.23	975725.28	37.3	36.92
1290-MW-08D	5/2007*	--	14.50 - 24.50	D	1-in. PVC	735083.08	977800.64	37.0	36.72
1290-MW-08S	5/2007*	--	5.40 - 15.40	S	1-in. PVC	735078.48	977799.65	36.9	36.53
1290-MW-09D	5/2007*	--	20.39 - 30.39	D	1-in. PVC	734986.65	978528.67	37.7	37.35
1290-MW-09S	5/2007*	--	5.55 - 15.55	S	1-in. PVC	734989.07	978523.22	37.8	37.39
1290-MW-12D	5/2007*	--	24.3 - 34.3	D	1-in. PVC	735583.27	976441.49	37.5	37.27
1290-MW-12S	5/2007*	--	7.6 - 17.6	S	1-in. PVC	735576.76	976442.09	37.5	37.29
1290-MW-13D	5/2007*	--	20.01 - 30.01	D	1-in. PVC	734833.43	977242.99	37.1	36.81
1290-MW-13S	5/2007*	--	5.59 - 15.59	S	1-in. PVC	734827.57	977244.61	36.9	36.63
Historical Wells - Unknown									
MW-15	--	--	--	--	--	734550.89	978703.92	31.4	31.30
MW-16	--	--	--	--	--	734429.82	978718.65	30.4	30.33
ARCADIS Investigation - 2010									
H17-MW-17S	4/23/2010	18.0	8.0 - 18.0	S	2-in. PVC	735385.6220	978488.9800	36.89	36.76
H17-MW-17D	5/6/2010	45.0	32.0 - 42.0	D	2-in. PVC	735385.2520	978492.2990	37.03	36.79
H17-MW-18D	5/5/2010	45.0	30.0 - 40.0	D	2-in. PVC	733842.1130	977987.2880	34.49	34.29
H17-MW-19S	4/20/2010	20.0	5.0 - 15.0	S	2-in. PVC	733735.8080	979153.1090	19.31	19.23
H17-MW-20D	5/11/2010	45.0	18.0 - 28.0	D	2-in. PVC	734165.4660	979743.7200	17.45	19.75
H17-MW-21S	4/22/2010	17.0	7.0 - 17.0	S	2-in. PVC	734333.6702	980145.7400	19.72	19.33
H17-MW-21D	5/11/2010	45.0	25.0 - 35.0	D	2-in. PVC	734340.3702	980147.7215	19.75	19.33
H17-MW-22S	4/21/2010	17.0	7.0 - 17.0	S	2-in. PVC	733627.4820	979881.0850	18.88	18.66
H17-MW-22D	5/5/2010	45.0	25.0 - 35.0	D	2-in. PVC	733626.0170	979887.3480	18.70	18.36

Notes:
Elevations for AF wells based on NGVD 88
Elevations for AT wells based on NGVD 1929
Northing/Easting for AF wells based on NAD 88
BGS Below ground surface
MSL = mean sea level
-- = no data/unknown
a = The top of casing was resurveyed in February 2001
b = Unable to open well cap; therefore, elevation reported to rim of protective cover for well (i.e., well protective casing).
c = Top of casing may have changed during 2006 excavation activities
* = The exact well installation date could not be found in historical documents

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-01	AF-01	AF-02	AF-02	AF-03	AF-03	AF-04	AF-04	AF-05		AF-05	AF-07	AF-07	AF-08	AF-08
		Sample Date	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999*	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	2.5-12.5	2.5-12.5	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2.5-12.5	2.5-12.5	2.5-12.5	2.5-12.5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 200	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
2-Butanone		2,000	< 5 R	< 5	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5
2-Hexanone			< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**40.2**	< 500	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5
Acetone		4,000	< 5	**6.7**	**11.1 J**	**8**	5 JBU	**18**	8.9 BU	**9.1**	10.6 BU	10.8 BU	**11.7**	25 JBU	< 500	5 JBU	**6.8**
Benzene	5	5	< 2	< 1	**8.4**	**0.82 J**	**2.2**	< 1	< 2	< 1	**11.8**	**14.1**	**4.7**	**9130**	**9920**	< 2	**0.2 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 25	< 100	< 5	< 1
Bromoform			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Carbon disulfide		4,000	< 5	< 5	5 JBU	< 5	< 5 J	< 5	< 5 J	< 5	< 5	< 5 J	< 5	< 25 J	< 500	**1.1 J**	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 1	< 2	1 JBU	**1.6 J**	1 JBU	< 2	< 1	**9.5**	**8.6**	**4.7**	**493**	**645**	< 2	1 JBU
Methylene chloride	5	5	**1.2 J**	< 5	**0.54 J**	< 5	< 2	< 5	< 2	< 5	< 2	< 2	< 5	13.1 BU	< 500	< 2	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Toluene	1,000	1,000	< 2	< 1	**0.65 J**	< 1	< 2	< 1	< 2	< 1	**3**	**3.2**	**0.82 J**	**24.8**	**39.2**	< 2	< 1
Trichloroethene	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Xylenes (total)	10,000	10,000	< 6	< 3	< 6	< 3	**0.96 J**	**3 JB**	< 6	< 3	**46.5**	**43.1**	**20.9**	**246**	300 JBU	< 6	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-09	AF-09	AF-11	AF-11	AF-12	AF-12	AF-13	AF-13	AF-14	AF-14	AF-15	AF-15	AF-15	AF-16	AF-16
		Sample Date	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999*	9/28/2000	9/26/1999	9/28/2000
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	2-12	2-12	1-11	1-11	2.5-12.5	2.5-12.5	2.5-12.5	2.5-12.5	1.4-11.4	1.4-11.4	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
cis-1,2-Dichloroethene			**3.9**	**3.4**	< 2	< 2	< 4	< 2	**1.5 J**	**1.2 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
2-Butanone		2,000	< 5 R	< 5	< 5 R	< 5	< 10 R	< 5	< 5	< 5	< 5	< 5	< 5 R	< 5 R	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 10 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5 R	**7.4**	< 5	< 5	< 10 R	**8.2**	5 JBU	**7.2**	7.8 BU	**8.3**	< 5 R	< 5 R	**8.2**	5.2 BU	**6.5**
Benzene	5	5	**11.8**	**7**	< 2	< 1	**23.4**	**33.2**	< 2	< 1	< 2	< 1	**1 J**	< 2	**0.19 J**	< 2	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 10	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5	< 1
Bromoform			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	**2 J**	< 5	< 5	< 5	< 5	< 5 J	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**27.7**	**16.7**	< 2	1 JBU	**54.8**	**94.1**	< 2	**0.17 J**	< 2	**0.064 J**	< 2	< 2	< 1	< 2	< 1
Methylene chloride	5	5	3.9 BU	< 5	< 2	< 5	**2 J**	< 5	< 2	< 5	< 2	< 5	2.9 BU	2 JBU	< 5	< 2	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Toluene	1,000	1,000	< 2	**0.36 J**	< 2	< 1	< 4	**0.29 J**	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Trichloroethene	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Xylenes (total)	10,000	10,000	**1.4 J**	< 3	< 6	< 3	**8.5 J**	**3.2**	< 6	**1.2 J**	< 6	< 3	< 6	< 6	< 3	< 6	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-17	AF-18	AF-18	AF-19	AF-19	AF-20		AF-20	AF-23	AF-23	AF-24	AF-24	AF-25	AF-25	AF-26
		Sample Date	9/26/1999	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999*	9/27/2000	9/26/1999	9/27/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	2.5-12.5	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5	3-13	3-13	3-13	3-13	3-13	2-12	2-12	0.5-10.5	0.5-10.5	2-12
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1,2-Trichloroethane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1-Dichloroethane		4,000	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1-Dichloroethene	7	7	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.66 J**	< 1	< 4
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
cis-1,2-Dichloroethene			**19.9**	**13.2**	**5.6**	**8.3**	**0.36 J**	**1.7 J**	**2.2**	**2.3**	**5.3**	**8.5**	< 2	< 2	**40.2**	**34**	**27.9**
1,2-Dichloropropane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
2-Butanone		2,000	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5	**5.9 J**	< 5	< 5	< 5	< 5	< 5	< 10 R
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10
Acetone		4,000	5 JBU	< 5 R	**11.2**	< 5 R	**7.4**	< 5 R	7.4 BU	**7.7**	< 5	**6.6**	5 JBU	< 5	5 JBU	5 JU	< 10
Benzene	5	5	**14**	**10.3**	**5.8**	**3.5**	**0.24 J**	**2.1**	**1.6 J**	**0.55 J**	**1.1 J**	**1.6**	< 2	< 1	**4.8**	**1.6**	**16.6**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 10
Bromoform			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Bromomethane		10	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Carbon disulfide		4,000	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 10
Carbon tetrachloride	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloroethane			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloroform		100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloromethane		3	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
cis-1,3-Dichloropropene			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dibromochloromethane			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 2	**0.11 J**	< 2	< 1	< 2	< 2	1 JBU	< 2	1 JBU	< 2	< 1	**0.59 J**	< 1	< 4
Methylene chloride	5	5	< 2	4.2 BU	< 5	2.3 BU	< 5	4.5 BU	< 2	< 5	< 2	< 5	< 2	< 5	< 2	< 5	**1.5 J**
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Tetrachloroethene	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Toluene	1,000	1,000	< 2	< 2	**0.7 J**	< 2	**0.99 J**	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Trichloroethene	5	5	**112**	**1.6 J**	**1.4**	**2.6**	< 1	< 2	< 2	< 1	**1.6 J**	**0.33 J**	< 2	< 1	**243**	**197**	**116**
Vinyl chloride	2	2	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.6 J**	< 1	< 4
Xylenes (total)	10,000	10,000	< 6	< 6	< 3	< 6	< 3	< 6	< 6	3 JBU	< 6	< 3	< 6	< 3	< 6	< 3	< 12

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-26	AF-27	AF-27	AF-28	AF-28	AF-29	AF-29	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30
		Sample Date	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999
		Sample Type	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	2-12	1-11	1-11	2-12	2-12	2-12	2-12	10-20	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane		0.2	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane		4,000	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	7	7	< 1	< 20	< 1	**0.67 J**	< 1	< 2	< 1	< 2	< 2	< 2	**0.74 J**	**2.2**	**0.62 J**	< 2	< 2
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene			**21.8**	**49.3**	**30.7**	**41.9**	**42.6**	**9.5**	**2.4**	**11.9**	**3.3**	**24**	**33**	**90.3**	**24.3**	**11.3**	**8.7**
1,2-Dichloropropane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2-Butanone		2,000	< 5	< 50 R	< 5	< 5	< 5	< 5 R	< 5	< 5 R	< 5	< 5	< 5 R	< 5	< 5 R	< 5 R	< 5 R
2-Hexanone			< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	**14.2**	**15.5**	< 5 J	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 50	< 5	5 JBU	< 5	< 5	12.4U	**9.8 J**	8.4 BU	10.8 BU	< 5 R	5 JBU	< 5 R	< 5	< 5 R
Benzene	5	5	**11.2**	**5.1 J**	**1.9**	**3.9**	**8.6**	**53.6**	**351**	**3060**	**7670 J**	**2290**	**37.9**	**16.2**	**11**	**6.4**	**5.5**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 50	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane		10	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Carbon disulfide		4,000	< 5	< 50	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5 J	5 JBU	**1.1 J**	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroform		100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane		3	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,3-Dichloropropene			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 20	< 1	< 2	< 1	< 2	**54.1**	**251**	**500 J**	**168**	**2.7**	**1.3 J**	**0.53 J**	**0.67 J**	**5.5**
Methylene chloride	5	5	< 5	**12.8 J**	< 5	< 2	< 5	**1.2 J**	< 5	**4.4 B**	**2.2**	2 JBU	**0.95 J**	< 2	4 BU	3.4 BU	2 JBU
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	**0.52 J**	< 2	< 2	< 2	< 2	< 2	< 2
Tetrachloroethene	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Toluene	1,000	1,000	**1.9**	< 20	< 1	< 2	**1.2**	< 2	**2.8**	**8.8**	**19**	**5.5**	**0.55 J**	< 2	< 2	< 2	**0.78 J**
Trichloroethene	5	5	**102 J**	**596**	**179**	**60.9**	**56.8**	**11**	**2.6**	**9.9**	**1.7 J**	**21.3**	**75.9**	**262**	**116**	**66.5**	**66.2**
Vinyl chloride	2	2	< 1	< 20	< 1	< 2	< 1	**1.8 J**	**0.77 J**	**1.2 J**	< 2	**0.88 J**	< 2	< 2	< 2	< 2	< 2
Xylenes (total)	10,000	10,000	< 3	< 60	< 3	< 6	< 3	< 6	**5.1**	**18.3**	**72.7**	**9.6**	**1.8 J**	< 6	**0.51 J**	**0.67 J**	**9.3**

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-30	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-32	AF-32	AF-32	AF-32	AF-32
		Sample Date	9/26/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	46-50	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	11-15	15-25	16-20	21-25	26-30	
Chemical Name	USEPA MCL	Type I RRS																
VOCs - U.S. EPA Method 8260B (µg/L)																		
1,1,1-Trichloroethane	200	200	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1,2,2-Tetrachloroethane		0.2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1,2-Trichloroethane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1-Dichloroethane		4,000	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,1-Dichloroethene	7	7	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,2-Dichloroethane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
cis-1,2-Dichloroethene			< 2	**17.9**	**10.7**	< 2	**16.4**	< 2	< 2	< 2	< 2	< 2	**6.4**	< 2	< 2	< 2	< 2	
1,2-Dichloropropane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
2-Butanone		2,000	< 5 R	< 25 R	< 5 R	< 5 R	< 5 R	< 5 R	**1.9 J**	**1.3 J**	< 5 R	< 5 R	< 5 R	< 5 R	**0.93 J**	< 5 R	< 5 R	
2-Hexanone			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
4-Methyl-2-pentanone			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Acetone		4,000	< 5 R	< 25 R	< 5	< 5 R	< 5 R	< 5	< 5	< 5	< 5	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5 R	
Benzene	5	5	**6.8**	**11.1**	**0.99 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**2.1**	< 2	< 2	< 2	< 2	
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromodichloromethane			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Bromoform			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Bromomethane		10	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Carbon disulfide		4,000	**1.3 J**	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Carbon tetrachloride	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorobenzene	100	100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Chloroethane			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Chloroform		100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Chloromethane		3	< 2	< 10	< 2	**0.68 J**	< 2	**0.73 J**	< 2	< 2	< 2	< 2	< 2	**0.92 J**	< 2	< 2	< 2	
cis-1,3-Dichloropropene			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Dibromochloromethane			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	700	700	**1.8 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Methylene chloride	5	5	2.9 BU	14.4 BU	2.4 BU	2.3 BU	**3**	2 JBU	2 BU	2.6 BU	2 JBU	2.9 BU	3.4 BU	2.3 BU	2.1 BU	**2.9**	2.8 BU	
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Styrene	100	100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Tetrachloroethene	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Toluene	1,000	1,000	**0.5 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**0.52 J**	< 2	< 2	
Trichloroethene	5	5	**0.91 J**	**168**	**110**	**2.6**	**43.7**	**1.3 J**	**1 J**	**0.76 J**	< 2	**0.56 J**	**26.3**	**0.7 J**	< 2	< 2	< 2	
Vinyl chloride	2	2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	
Xylenes (total)	10,000	10,000	**2.9 J**	< 30	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-32	AF-32	AF-32	AF-32	AF-33	AF-33	AF-34	AF-34	AF-35	AF-35	AF-36	AF-36	AF-37		AF-37
		Sample Date	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/28/2000	9/25/1999	9/28/2000	9/25/1999	9/28/2000	9/25/1999	9/28/2000	9/25/1999	9/25/1999*	9/28/2000
		Sample Type	VP	VP	VP	VP	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	31-35	36-40	41-45	46-50	2.3-11.8	2.3-11.8	1.4-10.9	1.4-10.9	1.2-10.7	1.2-10.7	1.4-10.9	1.4-10.9	4.4-14.3	4.4-14.3	4.4-14.3
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 2	< 2	< 2	< 2	< 1	**3.4**	**2.8**	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 2	< 2	< 1	**4.8**	**3.9**	< 2	< 1	< 2	< 1	**0.6 J**	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 2	**6.4**	**8.1**	**10.8**	**13**	**8.8**	**9.6**	**17.3**	**3.3**	**26.4**	**24.4**	**17.2**
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
2-Butanone		2,000	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5 R	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5 R	< 5 R	< 5	< 5 R	< 5 R	< 5	< 5 R	5U	< 5	5 JU	< 5 R	6.8U	< 5	< 5	5 JU
Benzene	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	**2.1**	**0.38 J**	**2.4**	**0.83 J**	**4.2**	**4.7**	**2.7**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 5	< 5	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1
Bromoform			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Bromomethane		10	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Carbon disulfide		4,000	< 5	**0.56 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloroethane			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloroform		100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloromethane		3	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dibromochloromethane			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	**0.63 J**	**1.4 J**	< 1
Methylene chloride	5	5	2.6 BU	5.4 BU	2.7 BU	3 BU	**2.1**	< 5	**3.6**	< 5	2.4 BU	< 5	**2.6**	< 5	2.7 BU	2.6 BU	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Tetrachloroethene	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Toluene	1,000	1,000	< 2	< 2	< 2	< 2	< 2	< 1	< 2	**0.47 J**	< 2	< 1	< 2	**0.78 J**	**0.69 J**	**1.4 J**	**1.9**
Trichloroethene	5	5	< 2	< 2	< 2	< 2	**45.8**	**34.4**	**95.5**	**105 J**	**23**	**27.6**	**38**	**10.3**	**346**	**301**	**226**
Vinyl chloride	2	2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Xylenes (total)	10,000	10,000	< 6	< 6	< 6	< 6	< 6	< 3	< 6	< 3	< 6	< 3	< 6	< 3	**3.4 J**	**7.6**	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-38	AF-38	AF-39	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-41	AF-41	AF-41	AF-41
		Sample Date	9/25/1999	9/28/2000	9/25/1999	2/2/2000	6/23/2000	9/28/2000	1/7/2001	6/8/2001	1/19/2002	7/25/2006	1/23/2007	2/2/2000	6/23/2000	9/28/2000	1/7/2001
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	4.1-14.1	4.1-14.1	4.4-14.3	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2 R	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	**1.6**	< 1	**0.41 J**	**0.89 J**	**1.6**	< 1	**1.05**	**0.94 J**	**3**	< 1	**0.82 J**
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1	< 1	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**3.8**	**0.39 J**	**4.3**	**15.4**	**63.3**	**14.6**	**26**	**48.5**	**58.7**	**14.9**	**54.4**	**35.6**	**110**	**1.7 J**	**32.7**
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	6.8U	< 5	5 BJU	< 5	5 JU	5 JBU	**1.3 J**	**3.1 J**	< 5	< 5	5 JBU	< 5	5.2U	5 JBU
Benzene	5	5	**2**	**0.19 J**	**0.92 J**	**21.3**	**1.3**	**1.8**	**0.39 J**	**0.45 J**	< 1	**16.4**	< 1	**0.2 J**	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1	< 1	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**1.6 J**	< 1	< 2	**3.2**	**0.57 J**	**0.45 J**	**0.13 J**	< 1 J	< 1	**12.4**	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	2 BU	< 5	2.4 BU	5 BJU	< 5	< 5	< 5	**12.7 BJ**	1 JU	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	**2**	**1.4**	< 2	**0.6 J**	< 1	< 1	< 1	< 1 J	1 JBU	**17.5**	**0.447 J**	< 1	< 1	< 1	< 1
Trichloroethene	5	5	**6.8**	< 1	< 2	**53.3**	**353**	**42.9**	**108 J**	**255 J**	**379**	**49.4**	**201**	**158**	**636**	**1.2**	**176**
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 1	**0.76 J**	**0.67 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	**9.4**	< 3	< 6	**8.8**	< 3	< 3	**0.34 J**	< 3 J	< 3	**53.8**	**0.378 J**	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-41	AF-41	AF-41	AF-41	AF-42	AF-42	AF-42	AF-42	AF-42	AF-42	AF-43	AF-43	AF-43	AF-43	AF-43
		Sample Date	6/8/2001	1/19/2002	7/25/2006	1/23/2007	2/2/2000	6/23/2000	9/28/2000	1/7/2001	6/8/2001	1/19/2002	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP
		Screen Interval	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	4-9	9-14	14-19	19-24	24-29
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**0.81 J**	**2.3**	**1.32**	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.51 J**	**2.3**	**5.4**
1,2-Dibromoethane	0.05		NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**39.5**	**76.4**	**81**	**61.3**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**0.46 J**	**5.3**	**20.2**	**103**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	**1.2 J**	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	5 JBU	< 5	5 JU	5 JBU	< 5	**2.6 J**	**11**	**3.6 J**	**1.6 J**	**1.8 J**	**2 J**
Benzene	5	5	**0.15 J**	< 1	**1.31**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	**0.68 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1 J	< 1	**2.14**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	**16.7 B**	1 JU	< 5	< 5	< 5	< 5	< 5	< 5	**16.6 B**	1 JU	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1 J	1 JBU	**2.67**	< 1	**0.3 J**	**0.81 J**	< 1	< 1	< 1 J	1 JBU	< 1	< 1	< 1	< 1	**0.27 J**
Trichloroethene	5	5	**195 J**	**405**	**252**	**168**	< 1	< 1	< 1	< 1	**0.36 J**	< 1	< 1	**1.2**	**304**	**2600**	**2140**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3 J	< 3	**9.56**	< 1	< 3	< 3	< 3	< 3	< 3 J	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-43	AF-43	AF-43	AF-43		AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-45
		Sample Date	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000*	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	29-34	34-39	39-44	44-49	44-49	4-9	9-14	14-19	19-24	24-29	29-34	34-39	39-44	44-49	4-9
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	**1.3**	**0.9 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**12.8**	**7.2**	**0.1 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**3.2**	**0.84 J**	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**116**	**68.2**	**9.8**	**5.4**	**3.2**	**7**	**2.8**	< 2	**5.6**	**7**	**1.1 J**	**104**	**38.6**	**9.2**	**10.3**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.4 J**	**1.4 J**	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.2 J**	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	**1.8 J**	**2.9 J**	**2 J**	< 5	**2.5 J**	< 5	< 5	< 5	< 5	< 5	< 5	**1.8 J**	**4.3 J**	**4.5 J**	5 JBU
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.16 J**	**0.31 J**	< 1	**1.8**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**0.41 J**
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	**0.062 J**	**0.06 J**	< 1	**0.072 J**	< 1	< 1	< 1	< 1	< 1	**0.11 J**	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	**0.45 J**	**0.5 J**	< 1	**0.29 J**	< 1	**0.31 J**	**0.3 J**	**0.38 J**	< 1	**0.48 J**	< 1	**0.39 J**
Trichloroethene	5	5	**2030**	**883**	**213 J**	**71.2**	**40.4**	**14.3**	**80.1**	**13**	**54.9**	**33.5**	**0.83 J**	**790**	**346**	**60.8**	**1.9**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	**0.32 J**	< 3	< 3	**0.46 J**	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-45	AF-45	AF-45	AF-45		AF-45	AF-45	AF-45	AF-45	AF-46	AF-46	AF-46	AF-46	AF-46	AF-46
		Sample Date	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000*	12/1/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	9-14	14-19	19-24	24-29	24-29	29-34	34-39	39-44	44-49	6-10	11-15	16-20	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**0.17 J**	< 1	**0.63 J**	**3.8**	**4.4**	**4.7**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**7.6**	**1.5 J**	**67.5**	**279**	**270**	**206**	**15.2**	**5.9**	< 2	**0.73 J**	**1.4 J**	< 2	**1.4 J**	**2.3**	**0.46 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	**4.2**	**0.99 J**	**0.33 J**	**0.24 J**	**0.25 J**	**0.19 J**	< 2	< 1	< 1	**0.22 J**	**0.65 J**	**0.3 J**	**0.63 J**	**0.16 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	**0.59 J**	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	**0.84 J**	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	< 1	< 1	< 1	**0.66 J**	1 JBU	1 JBU	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	5	5	**47.2**	**18.3**	**428**	**1510**	**1320**	**1490**	**181**	**48.4**	**0.59 J**	< 1	**3.9**	**2.6**	**4.6**	**1.2**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	**0.27 J**	**0.37 J**	**0.24 J**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-46		AF-46	AF-46	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-48	AF-48	AF-48
		Sample Date	12/2/2000	12/2/2000*	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/4/2000	12/4/2000	12/4/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	36-40	36-40	41-45	46-50	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	5-10	10-15	15-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	**0.51 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 2	**0.84 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**6.7**	**9.6**	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	**0.3 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JBU	5 JBU	**2.4 J**	< 5	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	**1.2**	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1	**0.88 J**	**0.63 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.6**	**0.14 J**	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.1 BU	1 JBU	**8.9**	1.6 BU	1.4 BU
Trichloroethene	5	5	< 1	< 1	**0.61 J**	< 1	**3**	**0.27 J**	< 1	< 1	< 1	< 1	< 1	< 1	**5.9**	**155**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**7.3**	**0.42 J**	**0.4 J**

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-48	AF-48	AF-48	AF-48	AF-48	AF-48	AF-48	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49
		Sample Date	12/4/2000*	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	15-20	20-25	25-30	30-35	35-40	40-45	45-50	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 2	< 2	< 2	< 2	**1.4 J**	**1.9 J**	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.4 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	9.8 BU	5 JBU	5 JBU	< 5	5 JBU	5 JBU	5 JBU	**2 J**
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**0.63 J**	**0.98 J**	**0.66 J**	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.58 J**
Toluene	1,000	1,000	1 BU	1 BU	1 BU	1 BU	1.1 BU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	**3.9**
Trichloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.48 J**	**0.78 J**	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-49	AF-49	AF-50	AF-50	AF-50	AF-50	AF-50		AF-50	AF-50	AF-50	AF-50	AF-51	AF-51	AF-51
		Sample Date	12/3/2000*	12/3/2000	12/2/2000	12/2/2000	12/2/2000	12/3/2000	12/3/2000	12/3/2000*	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	41-45	46-50	4-9	9-14	14-19	19-24	24-29	24-29	29-34	34-39	39-44	44-49	5-10	10-15	15-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**10.3**
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.64 J**	**22.5**
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 2	< 2	**4**	**4.4**	**0.21 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**3.4**	**5.1**	**65.4**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	**1.6 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JBU	**2.6 J**	**1.8 J**	**2 J**	< 5	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 5	< 5	< 5
Benzene	5	5	< 1	< 1	**9.5**	**0.86 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.3**	**0.86 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	**0.69 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JBU	**3.7**	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	**0.27 J**	< 1	< 1
Trichloroethene	5	5	< 1	< 1	**6.5**	**13.4**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**25.6**	**37.3**	**604**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52
		Sample Date	12/3/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	20-25	25-30	30-35	35-40	40-45	45-50	4-9	9-14	14-19	19-24	24-29	29-34	34-39	39-44	44-49
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethane		4,000	**2.1**	**0.76 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethene	7	7	**1.9**	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1	< 20	**16.3 J**	**15 J**	**0.61 J**	< 10	< 10	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
cis-1,2-Dichloroethene			**4**	**11.9**	**0.51 J**	< 2	**0.97 J**	< 2	< 2	< 2	**34.5 J**	**378**	**174**	**6**	**65.2**	**42.7**	**0.31 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	**1.2 J**	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	**8.5**	**1.8 J**	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	**0.18 J**	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	**0.16 J**	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Toluene	1,000	1,000	< 1	1 JBU	1 JBU	2.1 BU	1.3 BU	1 JBU	1 JBU	1 JBU	20 JBU	50 JBU	< 25	1 JBU	< 10	< 10	1 JBU
Trichloroethene	5	5	**10.9**	**90.3**	**0.38 J**	< 1	**2.4**	< 1	< 1	**0.33 J**	**1780**	**7730**	**2120**	**34.1**	**631**	**516**	**2.8**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	**0.45 J**	< 3	< 3	< 3	< 3	< 60	< 150	< 75	< 3	< 30	< 30	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-52	AF-53	AF-54		AF-55	AF-56	AF-57		AF-58	AF-59	AF-60		AF-61	AF-62	AF-63
		Sample Date	12/2/2000*	3/10/2001	3/10/2001	3/10/2001*	3/10/2001	3/10/2001	3/9/2001	3/9/2001*	3/9/2001	3/10/2001	3/10/2001	3/10/2001*	3/10/2001	3/10/2001	7/16/2002
		Sample Type	VP	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	VP
		Screen Interval	44-49	20-30	32.4-42.4	32.4-42.4	24-34	19.9-29.9	57.8-62.8	57.8-62.8	2.7-12.7	2.3-12.3	20-30	20-30	20-30	3-13	1-5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	**4.6**	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**0.32 J**	**88.8**	**53.2**	**57.8**	**154**	**7.9 J**	< 2	< 2	**8**	< 2	**3.4**	**3.5**	**1.3 J**	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	**2.8 J**	**1 J**	< 5	< 5	**2.3 J**	**1.9 J**	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	**97.3**	**613 J**	**554 J**	**3100 J**	25 JU	**220**	**200**	**1360 J**	**2250 J**	33.8 U	35.2 U	**356**	**8630 J**	**6.4**
Benzene	5	5	< 1	**0.22 J**	< 1	< 1	**0.35 J**	< 5	< 1	< 1	**0.16 J**	**0.67 J**	**0.26 J**	**0.25 J**	< 1	**0.15 J**	**0.92 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	**2.5**	**2.3**	**0.21 J**	< 5	**4.7**	**4.7**	**1.1**	**0.66 J**	< 1	< 1	**0.39 J**	**1**	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JBU	**0.27 J**	< 1	< 1	< 1	< 5	< 1	< 1	**0.62 J**	< 1	< 1	< 1	< 1	**0.23 J**	**2.4**
Trichloroethene	5	5	**2.9**	**2410 J**	**352**	**394**	**1020**	**303**	**0.72 J**	**0.17 J**	**13**	< 1	**26.1**	**24.9**	**267**	**0.39 J**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 15	< 3	< 3	**0.25 J**	< 3	< 3	< 3	< 3	< 3	**1 J**

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-63	AF-63	AF-63	AF-63	AF-63		AF-63	AF-63	AF-63	AF-64	AF-64	AF-64	AF-64	AF-64	AF-64
		Sample Date	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002*	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	6-10	11-15	16-20	21-25	26-30	26-30	31-35	36-40	41-45	6-10	11-15	16-20	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 2	< 2	**0.71 J**	**1.2 J**	**4.5**	**4.2**	< 2	**116**	**38.7**	< 2	< 2	< 2	< 2	**2**	**1.4 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	**5.6**	< 1	< 1	**1.8**	**3**	**3**	**1.4**	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**3.5**	< 1	< 1	**0.45 J**	< 1	< 1	**0.64 J**	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	5 JBU	< 5	5 JBU	5 JBU	**5 JB**	< 5	< 125	< 25	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JU	1 JU	1 JU	2U	1 JU	**1 J**	1 JU	< 25	**3.8 J**	1 U	2.2 U	2 U	1 U	2.9 U	1.2 U
Trichloroethene	5	5	< 1	< 1	**12.9**	**20.9**	**71.7**	**68.7**	**0.88 J**	**1250**	**344**	< 1	< 1	**6.7**	**13.8**	**31.2**	**2.8**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 75	< 15	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-64	AF-64	AF-65	AF-65	AF-65	AF-65	AF-65		AF-65	AF-65	AF-65	AF-65	AF-66	AF-66	AF-66
		Sample Date	7/16/2002	7/16/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002*	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/16/2002	7/16/2002	7/16/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	36-40	41-45	1-5	6-10	11-15	16-20	21-25	21-25	26-30	31-35	36-40	41-45	1-5	6-10	11-15
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 2	**4.4**	< 2	< 2	< 2	< 2	**0.38 J**	**0.37 J**	< 2	< 2	< 2	< 2 J	< 2	**15.9**	**90.5**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
2-Butanone		2,000	5 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**5.3 J**	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
Acetone		4,000	7.3 U	< 5	8.8 U	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JU	19.4 UJ	**3.1 J**	**16.7**	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1	**0.4 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Methylene chloride	5	5	5 JBU	5 JBU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	5 JU	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Toluene	1,000	1,000	**7**	1.7 U	**1.9**	1.1 U	**0.74 J**	**0.74 J**	**0.47 J**	**0.51 J**	**0.43 J**	< 1	< 1	**1.2 J**	**3.4**	**4.1**	**3.1**
Trichloroethene	5	5	**1.1**	**79.1**	< 1	< 1	< 1	**2.4**	**3**	**3**	< 1	< 1	< 1	< 1 J	< 1	< 1	**4.2**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	**0.74 J**
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**0.27 J**	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-66	AF-66	AF-66	AF-66		AF-66	AF-66	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67
		Sample Date	7/16/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002*	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/18/2002	7/18/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	16-20	21-25	26-30	31-35	31-35	36-40	41-45	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**2.2**	**0.97 J**	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.1 J**	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**15**	< 2	< 2	< 2	< 2	**0.45 J**	**0.37 J**	**14.2**	**25.6**	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	5 JU	< 5	8.6 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	**1.9 J**	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	**3.2**	1.2 U	1.8 U	**1.8**	**2.2**	**1.9**	**1.1**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	5	5	**76**	< 1	< 1	< 1	< 1	**6**	**4.2**	**107**	**746**	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-68	AF-68	AF-68	AF-69		AF-70	AF-71	AF-72	AF-73	AF-73	AF-73	AF-73	AF-73	AF-73	AF-73
		Sample Date	12/18/2002	7/25/2006	1/23/2007	12/18/2002	12/18/2002*	12/18/2002	12/18/2002	12/18/2002	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003*	10/11/2003	10/11/2003
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	34.5-39.5	34.5-39.5	34.5-39.5	40.2-45.2	40.2-45.2	15-20	15.3-20.3	2.5-12.5	7-11	12-15	16-20	21-25	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.8**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**1.6**	**1.71**	**1.47**	< 1	< 1	< 1 J	**0.54 J**	**4.9**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**84.8**	**84.9**	**67.7**	**6.9**	**6.5**	< 1 J	**36.5 J**	**57.8**	< 1	< 1	< 1	< 1	< 1	< 1	**0.4 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	5 JU	5 JU	5 JU	< 5	< 5	5 JU	5 JU
Benzene	5	5	< 1	**1.18**	**0.993 J**	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.61 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	**0.623 J**	< 1	< 1	< 1 J	< 1 J	< 1	<1.9	<3	<2.5	<2.7	<2.6	<2.8	<2.8
Trichloroethene	5	5	**380 J**	**540**	**373 J**	**138 J**	**141 J**	**2 J**	**41.4 J**	**807 J**	< 1	< 1	**1.5**	**2.2**	**2.2**	**1.9**	**4.4**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	**0.873 J**	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-73	AF-73	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-75	AF-75	AF-75	AF-75	AF-75
		Sample Date	10/11/2003	10/11/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/11/2003	10/11/2003	10/11/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	36-40	41-45	7-11	12-15	16-20	21-25	26-30	31-35	36-40	41-45	7-11	12-15	16-20	21-25	26-30
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**34.2**	**27.8**	< 1	< 1	< 1	< 1	< 1	**3.2**	**8.7**	**4.7**	< 1	< 1	< 1	< 1	**0.62 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**4.1 J**	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	5 JU	5 JU	5 JU	< 5	< 5	5 U	< 5	5.2 U	13.4 U	5 JU	5.7 U	5.5 U	5 JU	5 JU
Benzene	5	5	**1.6**	< 1	< 1	< 1	< 1	< 1	< 1	**2.5**	**1.7**	**0.43 J**	< 1	< 1	**2.3**	**1.3**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<3.2	<2.3	<3.2	<3.4	<2.4	<1.9	<2.5	<2.1	<3.9	<2.4	<2	<1.5	<2.1	<1.6	<1.6
Trichloroethene	5	5	**97.7**	**437**	< 1	< 1	**0.59 J**	**2.7**	**1.7**	**53.9**	**57 J**	**47.4**	< 1	< 1	**4.9**	**4.5**	**15.6**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-75	AF-75	AF-75	AF-75	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76		AF-76	AF-77	AF-77
		Sample Date	10/9/2003*	10/9/2003	10/10/2003	10/10/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003*	10/9/2003	10/8/2003	10/8/2003
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	26-30	31-35	36-40	41-45	7-11	12-15	16-20	21-25	26-30	31-35	36-40	36-40	41-45	11-15	16-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			**0.66 J**	**1.2**	< 1	**0.42 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.6 J**	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	12 U	5 JU	5 JU
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<1.9	<1.6	<1.9	<2.8	<2.1	<2.2	<2.4	<2.1	<2.4	<2	<2.3	<2.1	<5.3	<2.1	<2.4
Trichloroethene	5	5	**18**	**9.7**	< 1	**3.9**	< 1	< 1	< 1	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1	**0.73 J**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.96 J**	< 1	**0.64 J**

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-77	AF-77	AF-77	AF-77	AF-77	AF-77	AF-78	AF-78	AF-78	AF-78	AF-78		AF-78	AF-78	AF-78
		Sample Date	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003*	10/8/2003	10/8/2003	10/8/2003
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	21-25	26-30	31-35	36-40	41-45	46-50	12-15	16-20	21-25	26-30	31-35	31-35	36-40	41-45	46-50
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	**0.62 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5 J	**7.8**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	5 JU	< 5	5 JU	6.9 UJ	25 U	31.1 U	5 JU	5 JU	8.7 U	5 JU	5 JU	5 JU	5 JU	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1 J	**0.52 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1 J	**0.26 J**	< 1	< 1	< 1	**0.32 J**	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<3.4	<1.3	<2.6	<1.7	<4 J	<2.2	<2.3	<2.8	<2.6	<5.1	<2.2	<2.8	<2	<2	<1.9
Trichloroethene	5	5	**0.79 J**	< 1	< 1	< 1	< 1 J	< 1	< 1	**1.4**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	**0.61 J**	< 1	< 1	**0.62 J**	< 1	**0.72 J**	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2
		Sample Date	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1-Dichloroethane		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2 IJ	< 2 IJ
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dibromoethane	0.05		< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
2-Butanone		2,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
2-Hexanone			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
4-Methyl-2-pentanone			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Acetone		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Benzene	5	5	< 2	< 2	< 2	**0.98 J**	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Benzene, 1-methylethyl			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromochloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromodichloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromoform			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromomethane		10	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Carbon disulfide		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dichlorodifluoromethane		1,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chlorobenzene	100	100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloroethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloroform		100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloromethane		3	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dibromochloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dibromomethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2 IJ	< 2	< 2 IJ
Ethylbenzene	700	700	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Methylene chloride	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Naphthalene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
n-Butylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
n-Propylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
sec-Butylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Styrene	100	100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Tetrachloroethene	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Toluene	1,000	1,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Trichloroethene	5	5	< 2	< 2	**2.44**	**3.63 J**	< 20	< 10	**116**	**12.7**	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Vinyl chloride	2	2	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-2	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-4	B159-4	B159-4	B159-4	B159-4	B159-4
		Sample Date	12/6/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1-Dichloroethane		4,000	< 2 IJ	< 2	< 2	< 2	< 10 IJ	< 10	< 10 IJ	< 10	< 10	< 2 IJ	< 2	< 2	< 10	< 10	< 10
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dibromoethane	0.05		< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
2-Butanone		2,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
2-Hexanone			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
4-Methyl-2-pentanone			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Acetone		4,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Benzene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Benzene, 1-methylethyl			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromochloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromodichloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromoform			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromomethane		10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Carbon disulfide		4,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dichlorodifluoromethane		1,000	< 2	**10.5**	**5.32**	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chlorobenzene	100	100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloroethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloroform		100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloromethane		3	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dibromochloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dibromomethane			< 2	< 2	< 2	< 2 IJ	< 10	< 10	< 10 IJ	< 10	< 10	< 2	< 2	< 2	< 10	< 10 IJ	< 10
Ethylbenzene	700	700	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Methylene chloride	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Naphthalene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
n-Butylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
n-Propylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
sec-Butylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Styrene	100	100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Tetrachloroethene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Toluene	1,000	1,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Trichloroethene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Vinyl chloride	2	2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-4	B159-4	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5
		Sample Date	12/4/2002	12/4/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46
Chemical Name	USEPA MCL	Type I RRS										
VOCs - U.S. EPA Method 8260B (µg/L)												
1,1,1-Trichloroethane	200	200	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane		0.2	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane		4,000	< 10 IJ	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethene	7	7	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	0.05		< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloropropane	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Butanone		2,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene, 1-methylethyl			< 10	< 2	< 2	< 2	**0.81 J**	< 10	< 10	< 10	< 10	< 10
Bromochloromethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromoform			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromomethane		10	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon disulfide		4,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		1,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chlorobenzene	100	100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroform		100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloromethane		3	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dibromochloromethane			< 10	< 2	< 2	< 2	< 2	< 10 IJ	< 10	< 10	< 10	< 10
Dibromomethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Ethylbenzene	700	700	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Methylene chloride	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Naphthalene			< 10	< 2	< 2	**1.37 J**	**6.17**	**6.22 J**	< 10	< 10	< 10	< 10
n-Butylbenzene			< 10	< 2	< 2	**0.53 J**	< 2	< 10	< 10	< 10 J	< 10	< 10
n-Propylbenzene			< 10	< 2	< 2	< 2	**0.62 J**	< 10	< 10	< 10	< 10	< 10
sec-Butylbenzene			< 10	< 2	< 2	**0.88 J**	< 2	< 10	< 10	< 10	< 10	< 10
Styrene	100	100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Toluene	1,000	1,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Trichloroethene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Vinyl chloride	2	2	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part
Detections exceeding naturally occurring background concentrations trig

Table 5-3
Soil Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield - Savannah, Georgia

Sample ID		Soil Notification Concentration	AT-MW-1	AT-MW-1	AT-MW-2	AT-MW-2	AT-MW-3	AT-MW-3 (DUP)	AT-MW-3	AT-MW-3(DUP)	AT-MW-4
Location ID			AT0111	AT0121	AT0211	AT0221	AT0311	AT0313	AT0321	AT0323	AT0411
Sample Date			05/11/06	05/11/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06
Surface/Subsurface [Soil]			Surface	Subsurface	Surface	Subsurface	Surface	Surface	Subsurface	Subsurface	Surface
Sample Depth (ft bgs)			0.0-1.0	4.0-6.0	0.0-1.0	4.0-6.0	0.0-1.0	0.0-1.0	4.0-6.0	4.0-6.0	0.0-1.0
	Units										
VOCs											
1,1,2,2-Tetrachloroethane	mg/kg	0.13	< 0.00121	< 0.00127	< 0.0016	< 0.00142	< 0.00115	< 0.00134	< 0.00161	< 0.00236	< 0.00118
2-Butanone	mg/kg	0.79	<0.00604	**0.00268 J**	<0.00802	<0.00709	<0.00575	<0.0067	<0.00805	<0.0118	<0.00589
Acetone	mg/kg	2.74	**0.013**	**0.0348 J**	**0.0202 J**	**0.0292**	**0.00574 J**	**0.0255**	**0.0132**	**0.0181**	**0.0117**
Carbon Disulfide	mg/kg	DL*	**0.0071**	<0.00636	**0.0211 J**	**0.00413 J**	**0.00191 J**	<0.0067	<0.00805	<0.0118	**0.00477 J**
Chloroform	mg/kg	0.68	< 0.00121	< 0.00127	**0.000439 J**	< 0.00142	< 0.00115	< 0.00134	< 0.00161	< 0.00236	< 0.00118
Styrene	mg/kg	14	**0.0003 J**	**0.00055 J**	**0.00035 J**	**0.00031 J**	<0.00115	<0.00134	**0.00034 J**	**0.00055 J**	<0.00118
Toluene	mg/kg	14.4	**0.00448**	**0.00822 J**	<0.0016	**0.00195**	**0.0935**	**0.00251**	<0.00161	**0.00783**	<0.00118
Xylenes, Total	mg/kg	20	<0.00121	**0.00026 J**	<0.0016	<0.00142	<0.00115	<0.00134	<0.00161	<0.00236	<0.00118
SVOCs											
Benzo(a)pyrene	mg/kg	1.64	< 0.0402	< 0.0441	< 0.0364	**0.253**	< 0.0384	< 0.0384	< 0.0451	< 0.0471	< 0.0346
Benzo(b)fluoranthene	mg/kg	5	< 0.0402	< 0.0441	**0.0474**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0275 J**
Benzo(k)fluoranthene	mg/kg	5	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0153 J**
Chrysene	mg/kg	5	< 0.0402	< 0.0441	**0.0191 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0226 J**
Di-n-butyl phthalate	mg/kg	13.7	< 0.402	< 0.441	**0.0432 J**	< 0.454	< 0.384	< 0.384	< 0.451	< 0.471	< 0.346
Fluoranthene	mg/kg	500	< 0.0402	< 0.0441	**0.0139 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0504**
Phenanthrene	mg/kg	110	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0265 J**
Pyrene	mg/kg	500	< 0.0402	< 0.0441	**0.0137 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0357**
Metals											
Arsenic, Total	mg/kg	41	**1 J**	< 0.632	**1.1 J**	< 0.651	< 0.572	< 0.574	< 0.676	< 0.673	**0.85 J**
Barium, Total	mg/kg	500	**6**	**5.7**	**19.7**	**5.3**	**2.9**	**3**	**3.8**	**3.6**	**6.5**
Cadmium, Total	mg/kg	39	**0.063 J**	< 0.0379	**0.14 J**	< 0.039	< 0.0343	**0.043 J**	< 0.0406	< 0.0404	**0.075 J**
Chromium, Total	mg/kg	1200	**3.5 J**	**6.2 J**	**1.5**	**8.3**	**3.5**	**3.4**	**4.4**	**5.8**	**3.8**
Lead, Total	mg/kg	300	**7.3**	**7**	**16.7**	**10**	**4**	**4.4**	**2.7**	**2.9**	**17.8**
Mercury, Total	mg/kg	17	**0.024**	**0.109**	**0.0219**	**0.172**	**0.027**	**0.043**	**0.0346**	**0.0281**	**0.0237**
Selenium, Total	mg/kg	36	< 0.69	**1.9**	< 0.641	**0.99 J**	< 0.686	< 0.689	**0.84 J**	**1.4 J**	< 0.609

Notes:

J = Estimated value

Bolded values indicate detections

Highlighted values exceed HSRA Notification Standards

Shaded cell indicates detections above Notification Concentrations, per Rule 391-3-19

DL* = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit (PQL); values below the PQL are not shaded

Table 5-3
Soil Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield - Savannah, Georgia

Sample ID		Soil Notification Concentration	AT-MW-4	AT-MW-5	AT-MW-5	AT-SS-1	AT-SS-1	AT-SS-2	AT-SS-2	AT-SS-3	AT-SS-3
Location ID			AT0421	AT0511	AT0521	AT0110	AT0120	AT0210	AT0220	AT0310	AT0320
Sample Date			05/10/06	05/11/06	05/11/06	05/12/06	05/12/06	05/12/06	05/12/06	05/12/06	05/12/06
Surface/Subsurface [Soil]			Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
Sample Depth (ft bgs)			4.0-6.0	0.0-1.0	4.0-6.0	0.5-1.0	2.0-4.0	0.5-1.0	2.0-4.0	0.5-1.0	2.0-4.0
	Units										
VOCs											
1,1,2,2-Tetrachloroethane	mg/kg	0.13	< 0.00108	< 0.00151	**0.000667 J**	< 0.00142	< 0.00109	< 0.00122	< 0.00117	< 0.00119	< 0.00109
2-Butanone	mg/kg	0.79	<0.00539	<0.00754	**0.00416 J**	**0.00424 J**	<0.00546	<0.00612	<0.00583	<0.00595	<0.00547
Acetone	mg/kg	2.74	**0.00409 J**	<0.00754	**0.0385 J**	**0.0988 J**	<0.00546	**0.00759 J**	**0.00346 J**	<0.00595	**0.00995**
Carbon Disulfide	mg/kg	DL*	<0.00539	**0.00475 J**	**0.00285 J**	<0.00708	<0.00546	<0.00612	**0.0035 J**	<0.00595	<0.00547
Chloroform	mg/kg	0.68	< 0.00108	< 0.00151	< 0.00191	< 0.00142	< 0.00109	< 0.00122	< 0.00117	< 0.00119	< 0.00109
Styrene	mg/kg	14	**0.00034 J**	**0.00046 J**	**0.00085 J**	**0.00059 J**	**0.00029 J**	**0.00064 J**	**0.00028 J**	**0.00026 J**	**0.00029 J**
Toluene	mg/kg	14.4	**0.00638**	<0.00151	**0.00063 J**	<0.00142	<0.00109	**0.00073 J**	<0.00117	<0.00119	<0.00109
Xylenes, Total	mg/kg	20	<0.00108	<0.00151	<0.00191	<0.00142	<0.00109	**0.00025 J**	<0.00117	<0.00119	<0.00109
SVOCs											
Benzo(a)pyrene	mg/kg	1.64	< 0.0445	< 0.0342	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Benzo(b)fluoranthene	mg/kg	5	< 0.0445	**0.018 J**	< 0.0458	**0.0284 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Benzo(k)fluoranthene	mg/kg	5	< 0.0445	**0.0114 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Chrysene	mg/kg	5	< 0.0445	< 0.0342	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Di-n-butyl phthalate	mg/kg	13.7	< 0.445	< 0.342	< 0.458	< 0.387	< 0.408	< 0.416	< 0.404	< 0.373	< 0.401
Fluoranthene	mg/kg	500	< 0.0445	**0.0251 J**	< 0.0458	**0.014 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Phenanthrene	mg/kg	110	< 0.0445	**0.012 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Pyrene	mg/kg	500	< 0.0445	**0.0246 J**	< 0.0458	**0.0218 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Metals											
Arsenic, Total	mg/kg	41	< 0.665	**0.64 J**	< 0.664	**0.93 J**	< 0.591	**0.82 J**	**0.85 J**	< 0.542	< 0.596
Barium, Total	mg/kg	500	**5.2**	**5.9**	**5.3**	**8.7**	**1.9**	**16**	**7.8**	**6.5**	**6.8**
Cadmium, Total	mg/kg	39	< 0.0399	**0.13 J**	< 0.0399	**0.092 J**	< 0.0355	< 0.037	< 0.0357	**0.2 J**	< 0.0357
Chromium, Total	mg/kg	1200	**9.8**	**2.4 J**	**8 J**	**3.5 J**	**1.8 J**	**2.2 J**	**2.8 J**	**2.5 J**	**3.7 J**
Lead, Total	mg/kg	300	**7.6**	**17**	**4.5**	**8.7**	**2.5**	**15.4**	**4.5**	**3**	**5.2**
Mercury, Total	mg/kg	17	**0.133**	**0.0184**	**0.0538**	**0.0271**	**0.0214**	**0.0325**	**0.0313**	**0.0062 J**	**0.0544**
Selenium, Total	mg/kg	36	< 0.798	< 0.589	< 0.797	< 0.693	< 0.71	< 0.74	< 0.714	< 0.65	< 0.715

Notes:

J = Estimated value

Bolded values indicate detections

Highlighted values exceed HSRA Notification Standards

Shaded cell indicates detections above Notification Concentrations, per Rule 391-3-19

DL* = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit (PQL); values below the PQL are not shaded

Table 5-4
Groundwater Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield-Savannah, GA

	Well ID			AT-MW-1	AT-MW-2	AT-MW-3	AT-MW-4	AT-MW-4	AT-MW-5
	Sample ID			AT0112	AT0212	AT0312	AT0412	AT0414	AT0512
	Date			07/23/06	07/23/06	07/24/06	07/24/06	07/24/06	07/24/06
	Units	USEPA MCL	Type I RRS						
VOCs									
1,2-Dichloroethene	µg/L			**1.13**	<1	<1	<1	<1	<1
2-Butanone	µg/L		**2,000**	<5	<5	<5	**2.43 J**	**2.67 J**	<5
4-Methyl-2-pentanone	µg/L			<5	<5	<5	**1.49 J**	**1.76 J**	<5
Acetone	µg/L		**4,000**	**1.64 J**	<5	**3.26 J**	**10.5**	**13**	**1.26 J**
Benzene	µg/L	**5**	**5**	<1	<1	<1	**1.09**	**1.11**	<1
Ethylbenzene	µg/L	**700**	**700**	<1	**0.828 J**	<1	**2.88**	**3.1**	**1.25**
Toluene	µg/L	**1,000**	**1,000**	**0.396 J**	**0.402 J**	<1	**5.11**	**5.11**	**1.28**
Trichloroethene	µg/L	**5**	**5**	**34.8**	<1	<1	<1	<1	<1
Xylenes, Total	µg/L	**10,000**	**10,000**	**0.496 J**	**1.07**	**0.277 J**	**14.6**	**14.6**	**5.32**
SVOCs									
2-Methylnaphthalene	µg/L			<1 J	<1	<1	<1	**0.424 J**	**3.46**
Benzoic Acid	µg/L			<20	<20	**12.1 J**	<20	**14.9 J**	<19.6
Naphthalene	µg/L			<1 J	**0.548 J**	<1	<1	**0.676 J**	**2.15**
Metals									
Barium, Total	µg/L			**40.5**	**12.1**	**60.3**	**34.3**	**33.4**	**14.2**
Cadmium, Total	µg/L			**0.51 J**	<0.3	<0.3	**0.32 J**	<0.3	<0.3
Chromium, Total	µg/L			**16.1**	**1.3 J**	**1.8 J**	**3.6 J**	**3 J**	**1.4 J**

Notes:

J = Estimated value

Bolded values indicate detections

Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-01	1290-DPT-02	1290-DPT-02	1290-DPT-03	1290-DPT-03	1290-DPT-04	1290-DPT-04	1290-DPT-05
Location ID			AU011B	AU021B	AU022B	AU031B	AU032B	AU041B	AU042B	AU051B
Sample Date			10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07
Sample Depth (ft BGS)			43.0 - 44.0	13.5 - 14.5	43.5 - 44.5	14.5 - 15.5	44.0 - 45.0	10.0 - 11.0	38.8 - 39.8	36.0 - 37.0
	Units									
VOCs										
1,1-Dichloroethane	mg/kg	0.03	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
1,2-Dichloroethane	mg/kg	0.02	<0.00107	<0.00093	<0.00107	<0.00097	**0.00141**	<0.00116	<0.00135	<0.00102
1,2-Dichloroethene	mg/kg	--	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	**0.00054 J**
2-Butanone	mg/kg	0.79	<0.00534	<0.00466	<0.00535	<0.00483	<0.00584	<0.00578	<0.00674	<0.00512
2-Hexanone	mg/kg	--	**0.00174 J**	<0.00466	<0.00535	<0.00483	<0.00584	<0.00578	<0.00674	<0.00512
Acetone	mg/kg	2.74	**0.00396 J**	<0.00466	**0.0124 J**	**0.0052 J**	**0.0109 J**	**0.00391 J**	**0.00981 J**	**0.00402 J**
Carbon Disulfide	mg/kg	DL	**0.00198 J**	<0.00466	<0.00535	**0.00354 J**	<0.00584	<0.00578	<0.00674	<0.00512
Chloromethane	mg/kg	0.04	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Ethylbenzene	mg/kg	20	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Methylene Chloride	mg/kg	0.08	<0.00534	**0.00237 J**	**0.00228 J**	**0.00197 J**	**0.0026 J**	<0.00578	<0.00674	<0.00512
Styrene	mg/kg	14	**0.00319**	**0.00341**	**0.00366 J**	**0.00283**	**0.00435**	**0.00332**	**0.00249**	**0.0028**
Toluene	mg/kg	14.4	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Trichloroethene	mg/kg	0.13	**0.00114**	<0.00093	<0.00107	<0.00097	**0.00332**	<0.00116	<0.00135	**0.0191**
Xylenes, Total	mg/kg	20	<0.00107	<0.00093	**0.00056 J**	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102

Notes:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-05	1290-DPT-06	1290-DPT-06	1290-DPT-07	1290-DPT-07	1290-DPT-08	1290-DPT-08	1290-DPT-09
Location ID			AU052B	AU061B	AU062B	AU071B	AU072B	AU081B	AU082B	AU091B
Sample Date			10/02/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07
Sample Depth (ft BGS)			41.0 - 42.0	10.0 - 11.0	34.0 - 35.0	7.5 - 8.5	39.0 - 40.0	13.0 - 14.0	35.0 - 36.0	12.0 - 13.0
	Units									
VOCs										
1,1-Dichloroethane	mg/kg	0.03	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
1,2-Dichloroethane	mg/kg	0.02	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
1,2-Dichloroethene	mg/kg	--	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
2-Butanone	mg/kg	0.79	<0.00602	<0.00564	<0.0061	<0.00633	<0.00582	<0.00618	<0.00931	<0.00605
2-Hexanone	mg/kg	--	<0.00602	<0.00564	<0.0061	<0.00633	<0.00582	<0.00618	<0.00931	<0.00605
Acetone	mg/kg	2.74	<0.00602	**0.0111 J**	<0.0061	<0.00633	**0.00325 J**	<0.00618	**0.0208 J**	<0.00605
Carbon Disulfide	mg/kg	DL	<0.00602	<0.00564	**0.00252 J**	**0.00204 J**	**0.00463 J**	<0.00618	<0.00931	<0.00605
Chloromethane	mg/kg	0.04	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Ethylbenzene	mg/kg	20	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Methylene Chloride	mg/kg	0.08	<0.00602	**0.00285 J**	**0.00307 J**	**0.00326 J**	**0.0033 J**	**0.0035 J**	**0.00455 J**	**0.00291 J**
Styrene	mg/kg	14	**0.00383**	**0.0023**	**0.00206**	**0.00199**	**0.00158**	**0.00124**	**0.0022 J**	**0.00134**
Toluene	mg/kg	14.4	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Trichloroethene	mg/kg	0.13	**0.00295**	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Xylenes, Total	mg/kg	20	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121

Notes:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the prac
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-09	1290-DPT-10	1290-DPT-10	1290-DPT-11	1290-DPT-11	1290-DPT-12	1290-DPT-12	1290-DPT-13
Location ID			AU092B	AU101B	AU102B	AU111B	AU112B	AU121B	AU122B	AU131B
Sample Date			10/03/07	10/04/07	10/04/07	01/28/08	01/28/08	01/28/08	01/28/08	01/29/08
Sample Depth (ft BGS)			40.0 - 41.0	10.0 - 11.0	14.0 - 15.0	12.5 - 14.5	27.5 - 29.5	14.0 - 16.0	26.0 - 28.0	16.0 - 18.0
	Units									
VOCs										
1,1-Dichloroethane	mg/kg	0.03	<0.00138	<0.00131	**0.00122 J**	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
1,2-Dichloroethane	mg/kg	0.02	<0.00138	<0.00131	<0.00141	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
1,2-Dichloroethene	mg/kg	--	<0.00138	**0.00931**	**0.00874**	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
2-Butanone	mg/kg	0.79	<0.00689	<0.00654	<0.00706	**0.00358 J**	<0.00574	**0.0164 J**	<0.00536 J	**0.00485 J**
2-Hexanone	mg/kg	--	<0.00689	<0.00654	<0.00706	<0.00791	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Acetone	mg/kg	2.74	**0.0104 J**	**0.00505 J**	**0.0119 J**	**0.0146**	**0.00776**	**0.0688 J**	<0.00696 J	**0.0173 J**
Carbon Disulfide	mg/kg	DL	**0.00498 J**	<0.00654	<0.00706	<0.00791	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Chloromethane	mg/kg	0.04	<0.00138	<0.00131	<0.00141	**0.00428**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Ethylbenzene	mg/kg	20	<0.00138	<0.00131	<0.00141	**0.00074 J**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Methylene Chloride	mg/kg	0.08	**0.00276 J**	<0.00654	<0.00706	**0.00566 J**	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Styrene	mg/kg	14	**0.00201**	**0.00197**	**0.00248**	**0.00187**	**0.00041 J**	**0.00278 J**	**0.00107 J**	**0.00098 J**
Toluene	mg/kg	14.4	<0.00138	<0.00131	<0.00141	<0.00158	<0.00115	**0.00058 J**	<0.00107 J	<0.00115
Trichloroethene	mg/kg	0.13	<0.00138	**0.072**	**0.12**	**0.00211**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Xylenes, Total	mg/kg	20	<0.00138	<0.00131	<0.00141	**0.00232**	**0.00044 J**	**0.00221 J**	**0.00067 J**	**0.00046 J**

Notes:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the prac
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-13	1290-DPT-14	1290-DPT-14	1290-DPT-15	1290-DPT-15	1290-DPT-16	1290-DPT-16	1290-DPT-17
Location ID			AU132B	AU141B	AU142B	AU151B	AU152B	AU161B	AU162B	AU171B
Sample Date			01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/30/08
Sample Depth (ft BGS)			28.0 - 30.0	11.0 - 13.0	24.0 - 26.0	15.0 - 17.0	24.0 - 26.0	15.0 - 17.0	31.0 - 33.0	17.0 - 19.0
	Units									
VOCs										
1,1-Dichloroethane	mg/kg	0.03	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
1,2-Dichloroethane	mg/kg	0.02	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
1,2-Dichloroethene	mg/kg	--	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
2-Butanone	mg/kg	0.79	<0.00716	<0.00795	<0.00576	**0.0131 J**	**0.00229 J**	<0.00601	<0.00585	<0.00626
2-Hexanone	mg/kg	--	<0.00716	<0.00795	<0.00576	<0.00921 J	<0.00575	<0.00601	<0.00585	<0.00626
Acetone	mg/kg	2.74	**0.00628 J**	**0.0161**	**0.0051 J**	**0.06 J**	**0.00953**	<0.00601	**0.0035 J**	<0.00626
Carbon Disulfide	mg/kg	DL	**0.00312 J**	<0.00795	<0.00576	<0.00921	<0.00575	<0.00601	**0.00248 J**	<0.00626
Chloromethane	mg/kg	0.04	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Ethylbenzene	mg/kg	20	<0.00143	<0.00159	<0.00115	<0.00184 J	<0.00115	<0.0012	<0.00117	<0.00125
Methylene Chloride	mg/kg	0.08	<0.00716	<0.00795	<0.00576	<0.00921	<0.00575	<0.00601	<0.00585	<0.00626
Styrene	mg/kg	14	**0.00065 J**	**0.00101 J**	**0.00096 J**	**0.00127 J**	**0.00039 J**	**0.00037 J**	**0.00077 J**	**0.00109 J**
Toluene	mg/kg	14.4	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Trichloroethene	mg/kg	0.13	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Xylenes, Total	mg/kg	20	**0.00041 J**	**0.00044 J**	**0.00043 J**	**0.00067 J**	<0.00115	<0.0012	**0.00034 J**	**0.00058 J**

Notes:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the prac
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-17	1290-DPT-18	1290-DPT-18	1290-DPT-19	1290-DPT-19	1290-DPT-20	1290-DPT-20
Location ID			AU172B	AU181B	AU182B	AU191B	AU192B	AU201B	AU202B
Sample Date			01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08
Sample Depth (ft BGS)			38.0 - 40.0	8.0 - 10.0	28.0 - 30.0	9.0 - 10.0	31.0 - 33.0	12.0 - 14.0	28.0 - 30.0
	Units								
VOCs									
1,1-Dichloroethane	mg/kg	0.03	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
1,2-Dichloroethane	mg/kg	0.02	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
1,2-Dichloroethene	mg/kg	--	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
2-Butanone	mg/kg	0.79	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
2-Hexanone	mg/kg	--	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
Acetone	mg/kg	2.74	**0.0039 J**	**0.0177**	**0.00719**	**0.0051 J**	**0.0123 J**	**0.0092 J**	**0.00573 J**
Carbon Disulfide	mg/kg	DL	<0.00605	<0.00727	**0.00293 J**	<0.0055	**0.00607 J**	<0.00625	<0.0091
Chloromethane	mg/kg	0.04	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Ethylbenzene	mg/kg	20	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Methylene Chloride	mg/kg	0.08	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
Styrene	mg/kg	14	**0.00082 J**	**0.00121 J**	**0.00097 J**	**0.00059 J**	**0.0014 J**	**0.00043 J**	**0.001 J**
Toluene	mg/kg	14.4	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Trichloroethene	mg/kg	0.13	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Xylenes, Total	mg/kg	20	**0.0004 J**	**0.00066 J**	**0.00042 J**	**0.0003 J**	**0.00062 J**	<0.00125	<0.00182

Notes:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the prac
J = Estimated value

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-MW-1S	1290-MW-1D	1290-MW-2S	1290-MW-2D	1290-MW-3S
Sample ID				AU01111	AU01121	AU02111	AU02121	AU03111
Sample Date				07/17/07	07/17/07	07/18/07	07/17/07	07/18/07
Sample Type				MW	MW	MW	MW	MW
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	5.72 - 15.72	19.95 - 29.95	4.3 - 14.3	19.90 - 29.9	6.7 - 11.7
VOCs	Units							
1,1,2,2-Tetrachloroethane	• g/L		0.2	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L		4,000	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	7	7	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	5	5	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L			<1	<1	<1	<1	<1
2-Butanone	• g/L		2,000	<1	<1	<1	<1	<1
Acetone	• g/L		4,000	<5	<5	<5	<5	<5
Benzene	• g/L	5	5	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L		4,000	<5	<5	<5	<5	<5
Chloroform	• g/L		100	<1	<1	<1	<1	0.273 J
Toluene	• g/L	1,000	1,000	<1	<1	<1	<1	<1
Trichloroethene	• g/L	5	5	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	2	2	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	1290-MW-3D	1290-MW-4S	1290-MW-4D	1290-MW-5S	1290-MW-5D	1290-MW-6S	1290-MW-7S	1290-MW-7D
	Sample ID	AU03121	AU04111	AU04121	AU05111	AU05121	AU06111	AU07111	AU07121
	Sample Date	07/18/07	07/17/07	07/17/07	07/18/07	07/18/07	07/18/07	07/16/07	07/17/07
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW
	Sample Depth (ft BGS)	19.58 - 29.58	5.66 - 15.66	19.91 - 29.91	5.80 - 15.8	20.0 - 30.0	4.0 - 9.0	7.89 - 17.89	24.6 - 34.6
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	• g/L	**2.43 J**	<5	<5	<5	<5	**14.9**	**1.89 J**	<5
Benzene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	1290-MW-8S	1290-MW-8D	1290-MW-9S	1290-MW-9D	1290-MW-12S	1290-MW-12D	1290-MW-13S	1290-MW-13D
	Sample ID	AU08111	AU08121	AU09111	AU09121	AU12111	AU12121	AU13111	AU13121
	Sample Date	07/18/07	07/18/07	07/18/07	07/18/07	07/18/07	07/18/07	07/19/07	07/19/07
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW
	Sample Depth (ft BGS)	5.40 - 15.4	14.50 - 24.5	5.55 - 15.5	20.39 - 30.39	7.6 - 17.6	24.3 - 34.3	5.59 - 15.59	20.01 - 30.01
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	**6.01**	**7.77**	**4.29**	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	• g/L	<5	<5	**5.52**	**12**	<5	<5	<5	<5
Benzene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	• g/L	<1	**1.08**	<1	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	<1	<1	**0.551 J**	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	MW-15S	MW-16S	1290-DPT-01	1290-DPT-02	1290-DPT-02	1290-DPT-03	1290-DPT-03	1290-DPT-04
	Sample ID	AU15111	AU16111	AU011A	AU021A	AU022A	AU031A	AU032A	AU041A
	Sample Date	07/19/07	07/19/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07
	Sample Type	MW	MW	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	Unknown	Unknown	41.0 - 45.0	15.0 - 16.0	41.0 - 45.0	14.0 - 16.0	44.0 - 46.0	10.0 - 12.0
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L	<1	**0.906 J**	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	**9.35**	**54.7**	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	**1.1**	<1
cis-1,2-Dichloroethene	• g/L	<1	<1	**3.65**	<1	<1	<1	**0.574 J**	<1
2-Butanone	• g/L	<1	<1	<5	<5	<5	<5	<5	<5
Acetone	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	**1.55 J**	<5	<5	<5	**1.55 J**	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	• g/L	<1	<1	**19.4**	<1	<1	<1	**2.5**	<1
Vinyl Chloride	• g/L	<1	**27.3**	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	1290-DPT-04	1290-DPT-05	1290-DPT-05	1290- DPT-06	1290-DPT-06	1290-DPT-07	1290- DPT-07	1290-DPT-08
	Sample ID	AU042A	AU051A	AU052A	AU061A	AU062A	AU071A	AU072A	AU081A
	Sample Date	10/02/07	10/02/07	10/02/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	38.0 - 40.0	36.0 - 38.0	46.0 - 48.0	10.0 - 14.0	34.0 - 36.0	8.0 - 10.0	39.0 - 41.0	14.0 - 18.0
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	**0.44 J**
1,1-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L	<1	**2.99**	**3.42**	<1	<1	<1	<1	<1
2-Butanone	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	• g/L	<5	<5	<5	<6.81	<21.4	<5	<5	<5
Benzene	• g/L	<1	**1.05**	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	**2.49 J**	<5	<5	<5	<5	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	<1	<1	<1	<1.53	<1	<1	<1
Trichloroethene	• g/L	<1	**39.7**	**74.8**	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID		1290-DPT-08	1290-DPT-09	1290-DPT-09	1290-DPT-10	1290-DPT-10	1290-DPT-10	1290-DPT-11	1290-DPT-11
Sample ID		AU082A	AU091A	AU092A	AU101A	AU102A	AU103A	AU111A	AU112A
Sample Date		10/03/07	10/03/07	10/03/07	10/04/07	10/04/07	10/04/07	01/28/08	01/28/08
Sample Type		DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		35.0 - 40.0	12.0 - 14.0	40.0 - 42.0	10.0 - 12.0	14.0 - 16.0	26.0 - 28.0	10.0 - 14.0	24.0 - 29.0
VOCs	**Units**								
1,1,2,2-Tetrachloroethane	**• g/L**	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	**• g/L**	<1	<1	<1	<1	**3.35**	**0.791 J**	**0.862 J**	<1
1,1-Dichloroethene	**• g/L**	<1	<1	<1	**1.66**	**6.74**	<1	**2.59**	<1
1,2-Dichloroethane	**• g/L**	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	**• g/L**	<1	<1	<1	**41.3**	**104**	**22.2**	**63.8**	<1
2-Butanone	**• g/L**	<5	<5	<5	<5	<5	**3.27 J**	<5	<5
Acetone	**• g/L**	<5	<7.44	**4.72 J**	**1.55 J**	**1.54 J**	**7.98 J**	**3.78 J**	**4.46 J**
Benzene	**• g/L**	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	**• g/L**	<5	<5	**3.18 J**	<5	<5	<5	<5	<5
Chloroform	**• g/L**	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	**• g/L**	<1	<1	<1	<1	<1	<1	**0.709 J**	**0.377 J**
Trichloroethene	**• g/L**	<1	<1	<1	**172**	**483 J**	**99.4**	**372 J**	**0.269 J**
Vinyl Chloride	**• g/L**	<1	<1	<1	<1	<1	<1	**0.944 J**	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	1290-DPT-12	1290-DPT-12	1290-DPT-13	1290-DPT-13	1290-DPT-14	1290-DPT-14	1290-DPT-15	1290-DPT-15
	Sample ID	AU121A	AU122A	AU131A	AU132A	AU141A	AU142A	AU151A	AU152A
	Sample Date	01/28/08	01/28/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	12.0 - 16.0	24.0 - 28.0	14.0 - 18.0	26.0 - 28.0	8.0 - 12.0	22.0 - 26.0	11.0 - 15.0	20.0 - 24.0
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	• g/L	**3.55 J**	<5	<5	<5	<5	<5	<5	<5
Benzene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	**0.386 J**	<1	<1	<1	<1	<1	<1
Trichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	1290-DPT-16	1290-DPT-16	1290-DPT-17	1290-DPT-17	1290-DPT-18	1290-DPT-18	1290-DPT-19	1290-DPT-19
	Sample ID	AU161A	AU162A	AU171A	AU172A	AU181A	AU182A	AU191A	AU192A
	Sample Date	01/29/08	01/29/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	10.0 - 14.0	28.0 - 32.0	16.0 - 26.0	36.0 - 40.0	4.0 - 8.0	24.0 - 28.0	8.0 - 12.0	30.0 - 34.0
VOCs	Units								
1,1,2,2-Tetrachloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	• g/L	<5	<5	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Benzene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	• g/L	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	• g/L	<1	<1	**0.252 J**	**0.262 J**	<1	<1	**0.313 J**	<1
Trichloroethene	• g/L	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	• g/L	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	**1290-DPT-20**	**1290-DPT-20**
	Sample ID	**AU201A**	**AU202A**
	Sample Date	**01/30/08**	**01/30/08**
	Sample Type	**DPT**	**DPT**
	Sample Depth (ft BGS)	**8.0 - 12.0**	**24.0 - 28.0**
VOCs	**Units**		
1,1,2,2-Tetrachloroethane	**• g/L**	<1	<1
1,1-Dichloroethane	**• g/L**	<1	<1
1,1-Dichloroethene	**• g/L**	<1	<1
1,2-Dichloroethane	**• g/L**	<1	<1
cis-1,2-Dichloroethene	**• g/L**	<1	<1
2-Butanone	**• g/L**	<5	<5
Acetone	**• g/L**	<5 J	<5 J
Benzene	**• g/L**	<1	<1
Carbon Disulfide	**• g/L**	<5	<5
Chloroform	**• g/L**	<1	<1
Toluene	**• g/L**	<1	<1
Trichloroethene	**• g/L**	<1	<1
Vinyl Chloride	**• g/L**	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring backgro
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 6-1
Groundwater Elevations
HAA-17
Hunter Army Airfield-Savannah, GA

Well ID	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Product (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
			2006-2007		February 2010		May 2010		June 2010		
Purge Facility Investigation Wells											
AT-MW-1	31.61	40.3 - 45.3	4.45	27.16	1.76	29.85	3.15	28.46	N/A	3.35	28.26
AT-MW-2	31.86	2.3 - 12.3	3.69	28.17	1.4	30.46	2.93	28.93	N/A	3.24	28.62
AT-MW-3	32.09	2.2 - 12.2	3.54	28.55	1.04	31.05	2.94	29.15	N/A	3	29.09
AT-MW-4	32.79	2.3 - 12.3	4.79	28	2.5	30.29	3.98	28.81	N/A	4.26	28.53
AT-MW-5	33.03	2.3 - 12.3	4.62	28.41	2.11	30.92	3.66	29.37	N/A	4.03	29
H17-MW-18D	34.29	30.0 - 40.0	NM	NM	NM	NM	5.89	28.40	N/A	5.84	28.45
Former USTs 25 and 26 Wells											
AF-01	23.02	2.5 - 12.5	4.92	18.1	NM	NM	3.6	19.42	N/A	3.58	19.44
AF-02	21.94	2.0 - 12.0	4.58	17.36	NM	NM	NM	NM	N/A	3.87	18.07
AF-03	22.27	2.0 - 12.0	4.75	17.52	NM	NM	NM	NM	N/A	3.81	18.46
AF-04	22.24	2.0 - 12.0	3.01	19.23	NM	NM	1.68	20.56	N/A	2.31	19.93
AF-05	22.21	2.0 - 12.0	2.36	19.85	destroyed						
AF-07	b	2.5 - 12.5	4.92	b	2.22	b	NM	NM	3.73	NM	NM
AF-08	23.1	2.5 - 12.5	3.79	19.31	NM	NM	3.1	20	N/A	3.12	19.98
AF-09	22.93	2.0 - 12.0	NM	NM	destroyed						
AF-11	21.89	1.0 - 11.0	2.99	18.9	NM	NM	NM	NM	N/A	2.44	19.45
AF-12R	22.56	3.5 - 13.5	8.35	14.21	destroyed						
AF-13	22.79	2.5 - 12.5	2.99	19.8	1.31	21.48	NM	NM	N/A	2.56	20.23
AF-14	23.04	1.4 - 11.4	2.91	20.13	1.47	21.57	3.37	19.67	N/A	2.41	20.63
AF-15	23.28	1.5 - 11.5	3.95	19.33	NM	NM	4.64	18.64	N/A	3.38	19.9
AF-16	22.17	1.6 - 11.6	NM	NM	destroyed						
AF-17	18.93	2.0 - 12.0	NM	NM	destroyed						
AF-18	20.13	1.3 - 11.3	3.88	16.25	NM	NM	NM	NM	N/A	3.19	16.94
AF-19	19.68	1.4 - 11.4	1.19	18.49	destroyed						
AF-20	22.84	3.0 - 13.0	4.54	18.3	NM	NM	3.7	19.14	N/A	3.4	19.44
AF-23	23.25	3.0 - 13.0	4.44	18.81	2.89	20.36	3.88	19.37	N/A	3.86	19.39
AF-24	22.85	2.0 - 12.0	2.57	20.28	NM	NM	2.2	20.65	N/A	2.18	20.67
AF-25	15.03	0.1 - 10.1	NM	NM	NM	NM	NM	NM	N/A	1.05	13.98
AF-26	17.65	2.0 - 12.0	3.32	14.33	destroyed						
AF-28	17.11	2.0 - 12.0	NM	NM	destroyed						
AF-29	19.06	2.0 - 12.0	4.5	14.56	NM	NM	NM	NM	N/A	4.51	14.55
AF-33	18.07	2.3 - 11.8	2.6	15.47	NM	NM	NM	NM	N/A	2.4	15.67
AF-34	17.85	1.4 - 10.9	6.02	11.83	destroyed						
AF-35	17.63	1.2 - 10.7	4.18	13.45	NM	NM	NM	NM	N/A	3.85	13.78
AF-36	17.52	1.4 - 10.9	3.45	14.07	destroyed						
AF-37	20.06	4.4 - 14.3	NM	NM	destroyed						
AF-39	22.12	4.4 - 14.3	4.53	17.59	destroyed						
AF-40	22.78	28.5 - 33.0	5.34	17.44	destroyed						
AF-41	22.33	28.5 - 33.0	NM	NM	NM	NM	4.69	17.64	N/A	4.75	17.58
AF-42	19.03	28.5 - 33.0	0.9	18.13	destroyed						
AF-53	22.93	20.0 - 30.0	NM	NM	NM	NM	4.6	18.33	N/A	3.55	19.38
AF-54	22.43	32.4 - 42.4	4.11	18.32	1.83	20.6	3.29	19.14	N/A	3.26	19.17
AF-55	22.76	24.0 - 34.0	4.23	18.53	2.25	20.51	3.21	19.55	N/A	3.68	19.08
AF-56	22.99	19.9 - 29.9	NM	NM	2.23	20.76	4.34	18.65	N/A	3.32	19.67

Notes:
MSL = mean sea level
BGS = below ground surface
TOC = top of casing
b = unable to open well cap during survey

Table 6-1
Groundwater Elevations
HAA-17
Hunter Army Airfield-Savannah, GA

Well ID	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Product (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
AF-57	22.21	57.8 - 62.8	3.72	18.49	1.3	20.91	2.8	19.41	N/A	2.75	19.46
AF-58	22.32	2.7 - 12.7	8.71	13.61	4.72	17.6	7.51	14.81	N/A	7.87	14.45
AF-59	22.33	2.3 - 12.3	4.14	18.19	NM	NM	NM	NM	N/A	3.31	19.02
AF-60	23.77	20.0 - 30.0	2.7	21.07	NM	NM	2.98	20.79	N/A	2.66	21.11
AF-61	23.47	20.0 - 30.0	3.73	19.74	NM	NM	4.56	18.91	N/A	3.19	20.28
AF-62	22.11	3.0 - 13.0	NM	NM	destroyed						
AF-68	24.26	34.5 - 39.5	NM	NM	3.02	21.24	4.48	19.78	N/A	4.52	19.74
AF-69	23.83	40.2 - 45.2	NM	NM	3.79	20.04	NM	NM	N/A	5.63	18.2
AF-70	24	15.0 - 20.0	NM	NM	NM	NM	3.64	20.36	N/A	3.56	20.44
AF-71	23.06	15.3 - 20.3	NM	NM	NM	NM	NM	NM	N/A	4.17	18.89
AF-72	17.72	2.5 - 12.5	NM	NM	destroyed						
H17-MW-19S	19.23	5.0 - 15.0	NM	NM	NM	NM	7.46	11.77	N/A	5.38	13.85
H17-MW-20D	19.75	18.0 - 28.0	NM	NM	NM	NM	2.49	17.26	N/A	2.59	17.16
H17-MW-21S	19.33	7.0 - 17.0	NM	NM	NM	NM	4.85	14.48	N/A	4.85	14.48
H17-MW-21D	19.33	25.0 - 35.0	NM	NM	NM	NM	2.15	17.18	N/A	2.09	17.24
H17-MW-22S	18.66	7.0 - 17.0	NM	NM	NM	NM	5.61	13.05	N/A	3.05	15.61
H17-MW-22D	18.36	25.0 - 35.0	NM	NM	NM	NM	2.42	15.94	N/A	2.2	16.16
Building 1290 Investigation Wells											
MW-01D	36.40	19.95 - 29.95	6.79	29.61	NM	NM	NM	NM	N/A	5.48	30.92
MW-01S	36.43	5.72 - 15.72	6.75	29.68	NM	NM	NM	NM	N/A	5.05	31.38
MW-02D	36.05	19.90 - 29.90	6.38	29.67	4.35	31.7	NM	NM	N/A	5.1	30.95
MW-02S	36.05	4.3 - 14.3	6.28	29.77	4.3	31.75	NM	NM	N/A	5.04	31.01
MW-03D	b	19.59 - 29.58	6.95	b	4.94	b	NM	NM	N/A	5.65	N/A
MW-03S	b	6.70 - 11.70	6.78	b	4.9	b	NM	NM	N/A	5.43	N/A
MW-04D	36.25	19.91 - 29.91	6.82	29.43	NM	NM	NM	NM	N/A	5.46	30.79
MW-04S	36.23	5.66 - 15.66	6.69	29.54	NM	NM	NM	NM	N/A	5.33	30.90
MW-05D	36.16	20.0 - 30.0	6.35	29.81	4.49	31.67	NM	NM	N/A	5.27	30.89
MW-05S	36.14	5.80 - 15.80	6.32	29.82	4.49	31.65	NM	NM	N/A	5.23	30.91
MW-06S	36.03	4.0 - 9.0	6.44	29.59	NM	NM	NM	NM	N/A	5.7	30.33
MW-07D	36.93	24.6 - 34.6	6.85	30.08	4.15	32.78	NM	NM	N/A	6.2	30.73
MW-07S	36.92	7.89 - 17.89	6.73	30.19	4.31	32.61	NM	NM	N/A	6.02	30.90
MW-08D	36.72	14.50 - 24.50	6.74	29.98	3.84	32.88	5.62	31.1	N/A	5.65	31.07
MW-08S	36.53	5.40 - 15.40	6.56	29.97	3.66	32.87	5.42	31.11	N/A	5.49	31.04
MW-09D	37.35	20.39 - 30.39	9.65	27.7	7.11	30.24	8.81	28.54	N/A	8.8	28.55
MW-09S	37.39	5.55 - 15.55	8.46	28.93	5.4	31.99	7.4	29.99	N/A	7.51	29.88
MW-12D	37.27	24.3 - 34.3	7.8	29.47	5.91	31.36	NM	NM	N/A	6.56	30.71
MW-12S	37.29	7.6 - 17.6	7.75	29.54	5.76	31.53	NM	NM	N/A	6.45	30.84
MW-13D	36.81	20.01 - 30.01	7.11	29.7	4.71	32.1	NM	NM	N/A	5.56	31.25
MW-13S	36.63	5.59 - 15.59	6.8	29.83	4.35	32.28	NM	NM	N/A	5.36	31.27
H17-MW-17S	36.76	8.0 - 18.0	NM	NM	NM	NM	6.58	30.18	N/A	6.7	30.06
H17-MW-17D	36.79	32.0 - 42.0	NM	NM	NM	NM	7.59	29.20	N/A	8.04	28.75
Historic Unknown Wells											
MW-15	31.30	--	4.2	27.10	NM	NM	NM	NM	N/A	3.65	27.65
MW-16	30.33	--	3.55	26.78	1.35	28.98	3	27.33	N/A	3.17	27.16

Notes:
MSL = mean sea level
BGS = below ground surface
TOC = top of casing
b = unable to open well cap during survey

Table 7-1
Monitor Well Pair Groundwater Hydraulic Head Comparison
Hunter Army Airfield, Savannah, Georgia
HAA-17 (MCA Barracks Site)

Well ID	MW-2S	MW-2D	MW-5S	MW-5D	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
Date	2/8/2010		2/8/2010		2/8/2010		2/8/2010		2/8/2010	
Well Depth (ft BGS)	14.3	29.9	15.8	30	17.9	34.6	15.4	24.5	15.5	30.4
TOC Elevation (ft above MSL)	36.05	36.05	36.14	36.16	36.92	36.93	36.53	36.72	37.39	37.35
Water Level (ft BTOC)	4.30	4.35	4.49	4.49	4.31	4.15	3.66	3.84	5.40	7.11
Groundwater Elevation (ft above MSL)	31.75	31.70	31.65	31.67	32.61	32.78	32.87	32.88	31.99	30.24
Vertical Head Difference	-0.05		0.02		0.17		0.01		-1.75	

Well ID	MW-12S	MW-12D	MW-13S	MW13D	H17-MW-17S	H17-MW-17D	H17-MW-21S	H17-MW-21D	H17-MW-22S	H17-MW-22D
Date	2/1/2010		2/1/2010		2/1/2010		2/1/2010		2/1/2010	
Well Depth (ft BGS)	17.6	34.3	15.6	30	18	42	17	35	17	35
TOC Elevation (ft above MSL)	37.29	37.27	36.63	36.81	36.76	36.79	19.33	19.33	18.66	18.36
Water Level (ft BTOC)	5.76	5.91	4.35	4.71	6.58	7.59	4.85	2.15	5.61	2.42
Groundwater Elevation (ft above MSL)	31.53	31.36	32.28	32.10	30.18	29.20	14.48	17.18	13.05	15.94
Vertical Head Difference	-0.17		-0.18		-0.98		2.70		2.89	

Notes:
1.) ft BGS: feet below ground surface
2.) ft BTOC: feet below top of casing
3.) MSL: mean sea level
4.) * = TOC elevation for HGL-3B is from historical survey data

Table 7-2
Groundwater Velocity
HAA-17 Site-Wide Groundwater

WELL	Screen Interval (feet bgs)		K (ft/day)	SE Gradient	Porosity	Velocity	
						ft / day	ft / yr
AF-08	2.5 - 12.5	Slug-in	0.89				
		Slug-out	0.61				
	slug-out utilized		0.61	0.009	0.25	0.02	8
AF-20	3.0 - 13.0	Slug-in	0.72				
		Slug-out	0.66				
	slug-out utilized		0.66	0.009	0.25	0.02	9
AF-24	2.0 - 12.0	Slug-in	0.60				
		Slug-out	0.55				
	slug-out utilized		0.55	0.009	0.25	0.02	7
AF-53	20.0 - 30.0	Slug-in	1.6				
		Slug-out	1.6				
		average	1.6	0.009	0.25	0.06	21
AF-54	32.4 - 42.4	Slug-in	46				
		Slug-out	81				
		average	63	0.009	0.25	2.3	830
AF-55	24.0 - 34.0	Slug-in	3.4				
		Slug-out	3.8				
		average	3.6	0.009	0.25	0.13	48
AF-57	57.8 - 62.8	Slug-in	3.3				
		Slug-out	2.7				
		average	3.0	0.009	0.25	0.11	39

Note: Groundwater Velocity = (K) x (Gradient) / (effective porosity)
bgs - below ground surface
ft / day - feet per day
ft / yr - feet per year

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF01	H17-AF01	H17-AF01	H17-AF15	H17-AF15	H17-AF15	H17-AF15	H17-AF53	H17-AF53
	Sample Depth	21-22	31-32	37-38	21-22	29-30	37-38	44-45	25-26	35-36
	Sample Date	12/7/2009	12/7/2009	12/7/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009
Chemical Name	HSRA Soil									
VOCs - USEPA Method 8260B (mg/kg)										
1,1,1-Trichloroethane	5.44	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,1,2,2-Tetrachloroethane	0.13	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,1,2-Trichloroethane	0.5	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,1-Dichloroethane	0.03	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,1-Dichloroethene	0.36	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2,4-Trichlorobenzene	10.8	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2-Dibromoethane	0.01	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2-Dichlorobenzene	25	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2-Dichloroethane	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,2-Dichloropropane	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,3-Dichlorobenzene	2.22	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
1,4-Dichlorobenzene	0.13	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
2-Butanone	0.79	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091
2-Hexanone	--	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091
4-Methyl-2-pentanone	3.3	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091
Acetone	2.74	<0.58	<0.56	<0.44	**0.2 J**	**0.28 J**	**0.13 J**	**0.18 J**	**0.036 J**	<0.018
Benzene	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Benzene, 1-methylethyl	21.9	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Bromodichloromethane	1.18	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Bromoform	1	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Bromomethane	0.8	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Carbon disulfide	--	<0.15	<0.14	<0.11	**0.011 J**	**0.03 J**	**0.0015 J**	**0.0032 J**	**0.018 J**	**0.012 J**
Carbon tetrachloride	0.17	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
CFC-11	0.7	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
CFC-12	1.49	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Chlorobenzene	4.18	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Chloroethane	0.17	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Chloroform	0.68	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Chloromethane	0.04	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
cis-1,2-Dichloroethene	0.53	<0.15	<0.022	<0.11	<0.006	**0.0022 J**	<0.0055	<0.0047	<0.0053	<0.0046
cis-1,3-Dichloropropene	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Cyclohexane	25	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Dibromochloromethane	1.63	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Ethylbenzene	20	<0.15	<0.14	<0.11	<0.006	**0.0064 J**	<0.0055	<0.0047	<0.0053	<0.0046
Methyl acetate	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Methylcyclohexane	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Methylene chloride	0.08	<0.15	<0.14	<0.11	**0.0045 J**	**0.007 J**	<0.0055	<0.0047	<0.0053	<0.0046
Styrene	14	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
tert-Butyl methyl ether	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Tetrachloroethene	0.13	<0.15	<0.14	<0.11	<0.006	**0.0075 J**	<0.0055	<0.0047	<0.0053	<0.0046
Toluene	14.4	<0.15	<0.14	<0.11	<0.006	**0.0051 J**	<0.0055	<0.0047	<0.0053	<0.0046
trans-1,2-Dichloroethene	0.53	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
trans-1,3-Dichloropropene	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Trichloroethene	0.13	**0.35**	**0.47**	<0.11	**0.035**	**0.077**	<0.0055	<0.0047	**0.036**	**0.0088**
Vinyl chloride	0.04	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046
Xylenes (total)	20	<0.15	<0.14	<0.11	**0.0047 J**	**0.041**	<0.0055	<0.0047	<0.0053	<0.0046

Notes:

- Indicate the analyte was detected above applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).

mg/kg - milligrams per kilogram

NA - Not analyzed

VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF53	H17-AF61	H17-AF61	H17-AF61	H17-AF61	H17-AF62	H17-AF62	H17-AF62	H17-AF101
	Sample Depth	42-43	22-23	36-37	41-42	48-49	21-22	26-27	36-37	24-25
	Sample Date	12/8/2009	12/9/2009	12/9/2009	12/9/2009	12/9/2009	12/8/2009	12/8/2009	12/8/2009	12/10/2009
Chemical Name	HSRA Soil									
VOCs - USEPA Method 8260B (mg/kg)										
1,1,1-Trichloroethane	5.44	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,1,2,2-Tetrachloroethane	0.13	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,1,2-Trichloroethane	0.5	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,1-Dichloroethane	0.03	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,1-Dichloroethene	0.36	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	**0.0043**
1,2,4-Trichlorobenzene	10.8	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,2-Dibromoethane	0.01	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,2-Dichlorobenzene	25	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,2-Dichloroethane	0.02	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,2-Dichloropropane	0.02	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,3-Dichlorobenzene	2.22	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
1,4-Dichlorobenzene	0.13	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
2-Butanone	0.79	<0.0079	<0.0042	<0.37	<0.004	<0.014	<0.29	<0.21	<0.011	<0.0059
2-Hexanone	--	<0.0079	<0.0042	<0.37	<0.004	<0.014	<0.29	<0.21	<0.011	<0.0059
4-Methyl-2-pentanone	3.3	<0.0079	<0.0042	<0.37	<0.004	<0.014	<0.29	**0.037 J**	<0.011	<0.0059
Acetone	2.74	<0.016	**0.038**	<0.73	<0.0081	<0.027	<0.57	<0.42	<0.021	**0.02**
Benzene	0.02	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Benzene, 1-methylethyl	21.9	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Bromodichloromethane	1.18	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Bromoform	1	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Bromomethane	0.8	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Carbon disulfide	--	**0.0026 J**	**0.0063 J**	<0.18	**0.0015 J**	**0.0048 J**	<0.14	<0.11	**0.0049 J**	**0.0058 J**
Carbon tetrachloride	0.17	<0.004	**0.0041**	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
CFC-11	0.7	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
CFC-12	1.49	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Chlorobenzene	4.18	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Chloroethane	0.17	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Chloroform	0.68	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Chloromethane	0.04	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
cis-1,2-Dichloroethene	0.53	<0.004	**0.00054 J**	<0.18	<0.002	<0.0068	<0.14	**0.031 J**	<0.0053	**0.094**
cis-1,3-Dichloropropene	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Cyclohexane	25	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Dibromochloromethane	1.63	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Ethylbenzene	20	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Methyl acetate	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Methylcyclohexane	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Methylene chloride	0.08	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Styrene	14	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
tert-Butyl methyl ether	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Tetrachloroethene	0.13	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Toluene	14.4	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	**0.036 J**	<0.0053	<0.0029
trans-1,2-Dichloroethene	0.53	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
trans-1,3-Dichloropropene	--	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Trichloroethene	0.13	**0.0053**	**0.53**	**0.75**	**0.0021**	<0.0068	<0.14	**0.2**	<0.0053	**0.94**
Vinyl chloride	0.04	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029
Xylenes (total)	20	<0.004	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029

Notes:
- Indicate the analy
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated r
HSRA Soil - Georgia Environmental Protection Division Haz
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF101	H17-AF102	H17-AF102	H17-AF103	H17-AF103	H17-AF104	H17-AF104	H17-AF104	H17-AF105
	Sample Depth	34-35	34-35	44-45	34-35	44-45	24-25	34-35	44-45	34-35
	Sample Date	12/10/2009	12/15/2009	12/15/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009
Chemical Name	HSRA Soil									
VOCs - USEPA Method 8260B (mg/kg)										
1,1,1-Trichloroethane	5.44	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,1,2,2-Tetrachloroethane	0.13	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,1,2-Trichloroethane	0.5	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,1-Dichloroethane	0.03	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,1-Dichloroethene	0.36	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2,4-Trichlorobenzene	10.8	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2-Dibromoethane	0.01	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2-Dichlorobenzene	25	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2-Dichloroethane	0.02	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,2-Dichloropropane	0.02	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,3-Dichlorobenzene	2.22	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
1,4-Dichlorobenzene	0.13	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
2-Butanone	0.79	<0.63	<0.0064	<0.005	<0.0056	<0.0047	<0.0053	<0.0061	<0.0059	<0.0058
2-Hexanone	--	<0.63	<0.0064	<0.005	<0.0056	<0.0047	<0.0053	<0.0061	<0.0059	<0.0058
4-Methyl-2-pentanone	3.3	<0.63	<0.0064	<0.005	<0.0056	<0.0047	<0.0053	<0.0061	**0.0072**	<0.0058
Acetone	2.74	<1.3	**0.0081 J**	<0.01	<0.011	<0.0095	<0..011	<0.012	<0.012	<0.012
Benzene	0.02	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Benzene, 1-methylethyl	21.9	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Bromodichloromethane	1.18	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Bromoform	1	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Bromomethane	0.8	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Carbon disulfide	--	<0.31	**0.0025 J**	**0.035 J**	**0.0024 J**	**0.0042**	**0.00086 J**	<0.003	**0.003**	**0.00081 J**
Carbon tetrachloride	0.17	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
CFC-11	0.7	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
CFC-12	1.49	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Chlorobenzene	4.18	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Chloroethane	0.17	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Chloroform	0.68	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Chloromethane	0.04	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
cis-1,2-Dichloroethene	0.53	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
cis-1,3-Dichloropropene	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Cyclohexane	25	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	**0.00058 J**	<0.0029
Dibromochloromethane	1.63	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Ethylbenzene	20	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Methyl acetate	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Methylcyclohexane	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Methylene chloride	0.08	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Styrene	14	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
tert-Butyl methyl ether	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Tetrachloroethene	0.13	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Toluene	14.4	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
trans-1,2-Dichloroethene	0.53	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
trans-1,3-Dichloropropene	--	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Trichloroethene	0.13	**0.81 J**	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Vinyl chloride	0.04	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029
Xylenes (total)	20	<0.31	<0.0032	<0.0025	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029

Notes:
- Indicate the analy
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated r
HSRA Soil - Georgia Environmental Protection Division Haz
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF105	H17-AF107	H17-AF107	H17-AF108	H17-AF108	H17-FD1	H17-FD1	H17-FD2	H17-FD2
	Sample Depth	44-45	34-35	44-45	34-35	44-45	34-35	44-45	34-35	44-45
	Sample Date	12/16/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009	12/14/2009	12/14/2009	12/14/2009	12/14/2009
Chemical Name	HSRA Soil									
VOCs - USEPA Method 8260B (mg/kg)										
1,1,1-Trichloroethane	5.44	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,1,2,2-Tetrachloroethane	0.13	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,1,2-Trichloroethane	0.5	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,1-Dichloroethane	0.03	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	**0.0026 J**
1,1-Dichloroethene	0.36	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2,4-Trichlorobenzene	10.8	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2-Dibromoethane	0.01	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2-Dichlorobenzene	25	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2-Dichloroethane	0.02	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,2-Dichloropropane	0.02	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,3-Dichlorobenzene	2.22	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
1,4-Dichlorobenzene	0.13	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
2-Butanone	0.79	<0.0056	<0.0046	<0.0063	<0.007	<0.0057	<0.0071	<0.0066	<0.0049	<0.0055
2-Hexanone	--	<0.0056	<0.0046	<0.0063	<0.007	<0.0057	<0.0071	<0.0066	<0.0049	<0.0055
4-Methyl-2-pentanone	3.3	<0.0056	<0.0046	<0.0063	<0.007	<0.0057	<0.0071	<0.0066	<0.0049	<0.0055
Acetone	2.74	<0.011	<0.0092	<0.013	<0.014	<0.011	**0.014**	<0.013	<0.0098	**0.049**
Benzene	0.02	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Benzene, 1-methylethyl	21.9	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Bromodichloromethane	1.18	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Bromoform	1	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Bromomethane	0.8	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Carbon disulfide	--	**0.00093 J**	**0.0021 J**	<0.0031	<0.0035	**0.0016 J**	<0.0035	<0.0033	<0.0025	**0.095**
Carbon tetrachloride	0.17	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
CFC-11	0.7	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
CFC-12	1.49	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Chlorobenzene	4.18	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Chloroethane	0.17	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Chloroform	0.68	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Chloromethane	0.04	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	**0.0029**
cis-1,2-Dichloroethene	0.53	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
cis-1,3-Dichloropropene	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Cyclohexane	25	**0.00058 J**	**0.00042 J**	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Dibromochloromethane	1.63	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Ethylbenzene	20	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Methyl acetate	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Methylcyclohexane	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Methylene chloride	0.08	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Styrene	14	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
tert-Butyl methyl ether	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Tetrachloroethene	0.13	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Toluene	14.4	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
trans-1,2-Dichloroethene	0.53	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
trans-1,3-Dichloropropene	--	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Trichloroethene	0.13	<0.0028	**0.0015 J**	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Vinyl chloride	0.04	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027
Xylenes (total)	20	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029	<0.0035	<0.0033	<0.0025	<0.0027

Notes:
- Indicate the analy
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated r
HSRA Soil - Georgia Environmental Protection Division Haz
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-FD3	H17-FD3	H17-PF1	H17-PF1	H17-PF1	H17-PF2	H17-PF2	H17-PF3	H17-PF3
	Sample Depth	34-35	44-45	6-7	34-35	44-45	34-35	44-45	2-3	6-7
	Sample Date	12/14/2009	12/14/2009	12/11/2009	12/11/2009	12/11/2009	12/10/2009	12/10/2009	12/11/2009	12/11/2009
Chemical Name	HSRA Soil									
VOCs - USEPA Method 8260B (mg/kg)										
1,1,1-Trichloroethane	5.44	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,1,2,2-Tetrachloroethane	0.13	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,1,2-Trichloroethane	0.5	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,1-Dichloroethane	0.03	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,1-Dichloroethene	0.36	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2,4-Trichlorobenzene	10.8	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2-Dibromoethane	0.01	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2-Dichlorobenzene	25	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2-Dichloroethane	0.02	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,2-Dichloropropane	0.02	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,3-Dichlorobenzene	2.22	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
1,4-Dichlorobenzene	0.13	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
2-Butanone	0.79	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017	<0.93	<0.27
2-Hexanone	--	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017	<0.93	<0.27
4-Methyl-2-pentanone	3.3	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017	**0.31 J**	<0.27
Acetone	2.74	<0.014	<0.016	**0.0079 J**	**0.0093 J**	**0.024**	<0.0093	<0.035	<1.9	<0.54
Benzene	0.02	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Benzene, 1-methylethyl	21.9	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	**3.7**	**0.62 J**
Bromodichloromethane	1.18	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Bromoform	1	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Bromomethane	0.8	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Carbon disulfide	--	**0.0011 J**	**0.0011 J**	<0.0042	<0.0027	**0.0012 J**	**0.0021 J**	**0.0061 J**	<0.47	<0.13
Carbon tetrachloride	0.17	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
CFC-11	0.7	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
CFC-12	1.49	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Chlorobenzene	4.18	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Chloroethane	0.17	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Chloroform	0.68	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Chloromethane	0.04	**0.0024 J**	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
cis-1,2-Dichloroethene	0.53	<0.0035	**0.0013 J**	<0.0042	<0.0027	**0.001 J**	**0.00043 J**	**0.0038 J**	<0.47	<0.13
cis-1,3-Dichloropropene	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Cyclohexane	25	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Dibromochloromethane	1.63	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Ethylbenzene	20	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	**4.3**	**0.7 J**
Methyl acetate	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Methylcyclohexane	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	**11**	**6.0 J**
Methylene chloride	0.08	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Styrene	14	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
tert-Butyl methyl ether	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Tetrachloroethene	0.13	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Toluene	14.4	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	**2.6**	**0.3 J**
trans-1,2-Dichloroethene	0.53	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
trans-1,3-Dichloropropene	--	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Trichloroethene	0.13	<0.0035	<0.0041	<0.0042	<0.0027	**0.015**	**0.0092**	**0.095**	<0.47	<0.13
Vinyl chloride	0.04	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	<0.47	<0.13
Xylenes (total)	20	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086	**55**	**5.2 J**

Notes:
- Indicate the analy
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated r
HSRA Soil - Georgia Environmental Protection Division Haz
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-PF4	H17-PF4
	Sample Depth	34-35	44-45
	Sample Date	12/14/2009	12/14/2009
Chemical Name	HSRA Soil		
VOCs - USEPA Method 8260B (mg/kg)			
1,1,1-Trichloroethane	5.44	<0.0023	<0.0032
1,1,2,2-Tetrachloroethane	0.13	<0.0023	<0.0032
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0023	<0.0032
1,1,2-Trichloroethane	0.5	<0.0023	<0.0032
1,1-Dichloroethane	0.03	<0.0023	<0.0032
1,1-Dichloroethene	0.36	<0.0023	<0.0032
1,2,4-Trichlorobenzene	10.8	<0.0023	<0.0032
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0023	<0.0032
1,2-Dibromoethane	0.01	<0.0023	<0.0032
1,2-Dichlorobenzene	25	<0.0023	<0.0032
1,2-Dichloroethane	0.02	<0.0023	<0.0032
1,2-Dichloropropane	0.02	<0.0023	<0.0032
1,3-Dichlorobenzene	2.22	<0.0023	<0.0032
1,4-Dichlorobenzene	0.13	<0.0023	<0.0032
2-Butanone	0.79	<0.0046	<0.0064
2-Hexanone	--	<0.0046	<0.0064
4-Methyl-2-pentanone	3.3	<0.0046	<0.0064
Acetone	2.74	<0.0092	**0.077**
Benzene	0.02	<0.0023	<0.0032
Benzene, 1-methylethyl	21.9	<0.0023	<0.0032
Bromodichloromethane	1.18	<0.0023	<0.0032
Bromoform	1	<0.0023	<0.0032
Bromomethane	0.8	<0.0023	<0.0032
Carbon disulfide	--	<0.0023	**0.2**
Carbon tetrachloride	0.17	<0.0023	<0.0032
CFC-11	0.7	<0.0023	<0.0032
CFC-12	1.49	<0.0023	<0.0032
Chlorobenzene	4.18	<0.0023	<0.0032
Chloroethane	0.17	<0.0023	<0.0032
Chloroform	0.68	<0.0023	<0.0032
Chloromethane	0.04	**0.00088 J**	**0.0014 J**
cis-1,2-Dichloroethene	0.53	<0.0023	<0.0032
cis-1,3-Dichloropropene	--	<0.0023	<0.0032
Cyclohexane	25	<0.0023	<0.0032
Dibromochloromethane	1.63	<0.0023	<0.0032
Ethylbenzene	20	<0.0023	<0.0032
Methyl acetate	--	<0.0023	<0.0032
Methylcyclohexane	--	<0.0023	<0.0032
Methylene chloride	0.08	<0.0023	<0.0032
Styrene	14	<0.0023	<0.0032
tert-Butyl methyl ether	--	<0.0023	<0.0032
Tetrachloroethene	0.13	**0.0024**	<0.0032
Toluene	14.4	**0.00097 J**	<0.0032
trans-1,2-Dichloroethene	0.53	<0.0023	<0.0032
trans-1,3-Dichloropropene	--	<0.0023	<0.0032
Trichloroethene	0.13	<0.0023	<0.0032
Vinyl chloride	0.04	<0.0023	<0.0032
Xylenes (total)	20	**0.0013 J**	<0.0032

Notes:
- Indicate the analy
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated r
HSRA Soil - Georgia Environmental Protection Division Haz
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-4
Groundwater Analytical Results
ARCADIS 2009 DPT Investigation

		Location ID	H17-AF102	H17-AF103	H17-AF104	H17-AF105	H17-AF107	H17-AF108	H17-FD1	H17-FD2
		Sample Depth	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45
		Sample Date	12/15/2009	12/15/2009	12/17/2009	12/16/2009	12/17/2009	12/17/2009	12/15/2009	12/15/2009
Chemical Name	MCL	Type I RRS								
VOCs - USEPA Method 8260B (µg/L)										
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**7.1**
1,1-Dichloroethene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**2.4**
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.73**	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.99**
1,3-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	**0.78 J**	< 10	< 10	< 10	< 10	< 10	**0.37 J**
Acetone		4,000	**6.9 J**	**3.2 J**	**4.5 B**	**3.0 B**	**1.9 B**	**2.7 B**	< 10	< 10
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.34 J**
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	**0.37 J**	**0.36 J**	**0.73 UB**	< 0.5	< 0.5	**0.75 UB**	**0.61**	**0.72**
Carbon tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	**0.45 J**	< 0.5	< 0.5	< 0.5	**0.87**	**0.20 J**
cis-1,3-Dichloropropene			< 0.5	**2.0**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**
Methyl acetate			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylcyclohexane			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
tert-Butyl methyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	**2.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	**0.38 J**	< 0.5	< 0.5	< 0.5
Vinyl chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.4**

Notes:
* - Duplicate sample
- Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
B - Analyte was detected in an associated blank as well as in the sample.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-4
Groundwater Analytical Results
ARCADIS 2009 DPT Investigation

		Location ID	H17-FD3	H17-PF1	H17-PF2	H17-PF4
		Sample Depth	41-45	41-45	41-45	41-45
		Sample Date	12/15/2009	12/15/2009	12/17/2009	12/15/2009
Chemical Name	MCL	Type I RRS				
VOCs - USEPA Method 8260B (µg/L)						
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	7	7	< 0.5	< 0.5	**0.21 J**	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane	.05		< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	**2.2**	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone			< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10
Acetone		4,000	< 10	< 10	< 10	**4.3 J**
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform			< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	**1.3**	< 0.5	**0.36 UB**	**0.53**
Carbon tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	**0.32 J**	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	**6.2**	**0.18 J**	**7.5**	**0.37 J**
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	**0.45 B**
Dibromochloromethane			< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1	< 1	< 1	< 1
Methylcyclohexane			< 5	< 5	< 5	< 5
Methylene chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene		100	< 0.5	< 0.5	< 0.5	< 0.5
tert-Butyl methyl ether			< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	5	5	**1.1**	**2.2**	< 0.5	**1.7**
Vinyl chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5

Notes:
* - Duplicate sample
- Indicate the analyte was detected
BOLD - indicate the analyte was detected.
B - Analyte was detected in an associated blank as well as in the sample.
J - The analyte was positively identified, but the associated numerical value
MCL - USEPA Maximum Contaminant Level - National Primary Drinking W
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	AF-13	AF-14	AF-23	AF-25	AF-26	AF-35	AF-58	AT-MW-02	AT-MW-03		AT-MW-04
		Sample Date	2/10/2010	2/10/2010	2/10/2010	2/11/2010	2/11/2010	2/11/2010	2/11/2010	2/17/2010	2/17/2010	2/17/2010*	2/17/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.4**	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	**18**	**17**	< 10	< 10	< 10	**2.4 J**	< 10	< 10	**18**	< 10
Benzene	5	5	**0.25 J**	< 0.5	< 0.5	**0.37 J**	< 0.5	**0.12 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	**0.65**	< 0.5	**0.16 J**	**24**	< 0.5	**14**	**110**	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	**1.2**	< 0.5	**0.096 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.33 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	**0.56**	< 0.5	**0.84**	**0.93**	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	**77**	< 0.5	**2.1**	**270**	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.35 J**	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	**9.4 J**	**20 J**	**21 J**	**37**
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	**2.2 J**	<5.0	<5.0	**2.2 J**

Notes:
* - Duplicate sample
- Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	AT-MW-05	1290-MW-2S	1290-MW-3S	1290-MW-5S	1290-MW-7S	1290-MW-8S	1290-MW-9S	1290-MW-12S	1290-MW-13S	MW-15S	MW-16S
		Sample Date	2/17/2010	2/11/2010	2/11/2010	2/16/2010	2/11/2010	2/16/2010	2/16/2010	2/11/2010	2/16/2010	2/19/2010	2/17/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.8**	< 0.5	< 0.5	< 0.5	**0.49 J**
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	**18**	**1.1 J**	**17**	< 10	**17**	**18**	< 10	**1.5 J**	< 10	< 10	< 10
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			**0.56**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	**0.30 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	**0.20 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.3**
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	<25.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
- Indicate the analyte was detect
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical valu
MCL - USEPA Maximum Contaminant Level - National Primary Drinking
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 200
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	H17-MW-17S	H17-MW-19S		H17-MW-21S	H17-MW-22S
		Sample Date	5/25/2010	5/25/2010	5/25/2010*	5/25/2010	5/25/2010
Chemical Name	MCL	Type I RRS					
VOCs - USEPA Method 8260B (µg/L)							
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			**3.5 J**	< 10	< 10	< 10	< 10
Acetone		4,000	**28**	**5.1 J**	< 10	**1.9 J**	**3.7 J**
Benzene	5	5	**0.18 J**	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			**0.69**	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	**0.24 J**	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)							
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
- Indicate the analyte was detect
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical valu
MCL - USEPA Maximum Contaminant Level - National Primary Drinking
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 200
VOCs - Volatile Organic Compounds

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	AF-41	AF-54	AF-55	AF-55	AF-56	AF-57	AF-68	AF-69	AT-MW-1	1290-MW-2D	1290-MW-3D
		Sample Date	2/10/2010	2/10/2010	2/10/2010	2/10/2010*	2/10/2010	2/10/2010	2/10/2010	2/10/2010	2/17/2010	2/11/2010	2/11/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	**0.89**	**1.1**	**0.90**	**0.86**	< 2.5	< 0.5	**1.5**	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	**1.1 J**	**17**	**17**	**18**	< 50	**18**	**17**	**17**	< 10	**17**	**18**
Benzene	5	5	< 0.5	**0.19 J**	**0.94**	**0.93**	**3.2**	< 0.5	**1.7**	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	**48**	**52**	**110**	**110**	**15**	**0.47 J**	**79**	**3.4**	**0.63**	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	**0.24 J**	< 0.5	**1.7 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	**1.3 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		**0.24 J**	**0.24 J**	**2.3**	**2.3**	< 2.5	< 0.5	**1.4**	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	**46**	**270**	**170**	**170**	**1100**	< 0.5	**410**	**66**	**14**	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	**0.074 J**	**0.19 J**	**0.15 J**	< 2.5	< 0.5	**0.15 J**	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	**28**	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	<5.0	NA	NA

Notes:

- Indicate the analyte was detected above one or more applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).

VOCs - Volatile Organic Compounds

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	1290-MW-5D	1290-MW-7D	1290-MW-8D	1290-MW-9D	1290-MW-12D	1290-MW-13D	H17-MW-17D	H17-MW-18D	H17-MW-20D	H17-MW-21D	H17-MW-22D
		Sample Date	2/16/2010	2/11/2010	2/16/2010	2/16/2010	2/11/2010	2/16/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	**5.1**	**0.40 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.94**	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	**2.0 J**	< 10	**18**	< 10	< 10	**4.6 J**	< 10	< 10	**1.5 J**	< 10
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**5.2**	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.1**	**59**	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.6**	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.7**	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**2.6**	**280**	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- Indicate the analyte was detec

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical va

MCL - USEPA Maximum Contaminant Level - National Primary Drinking

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 20(

VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	AF-13	AF-14	AF-23	AF-25	AF-26	AF-35	AF-58	AT-MW-02	AT-MW-03		AT-MW-04
		Sample Date	2/10/2010	2/10/2010	2/10/2010	2/11/2010	2/11/2010	2/11/2010	2/11/2010	2/17/2010	2/17/2010	2/17/2010*	2/17/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.4**	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	**18**	**17**	< 10	< 10	< 10	**2.4 J**	< 10	< 10	**18**	< 10
Benzene	5	5	**0.25 J**	< 0.5	< 0.5	**0.37 J**	< 0.5	**0.12 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	**0.65**	< 0.5	**0.16 J**	**24**	< 0.5	**14**	**110**	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	**1.2**	< 0.5	**0.096 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.33 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	**0.56**	< 0.5	**0.84**	**0.93**	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	**77**	< 0.5	**2.1**	**270**	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.35 J**	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	**9.4 J**	**20 J**	**21 J**	**37**
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	**2.2 J**	<5.0	<5.0	**2.2 J**

Notes:
* - Duplicate sample
- Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	AT-MW-05	1290-MW-2S	1290-MW-3S	1290-MW-5S	1290-MW-7S	1290-MW-8S	1290-MW-9S	1290-MW-12S	1290-MW-13S	MW-15S	MW-16S
		Sample Date	2/17/2010	2/11/2010	2/11/2010	2/16/2010	2/11/2010	2/16/2010	2/16/2010	2/11/2010	2/16/2010	2/19/2010	2/17/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.8**	< 0.5	< 0.5	< 0.5	**0.49 J**
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	**18**	**1.1 J**	**17**	< 10	**17**	**18**	< 10	**1.5 J**	< 10	< 10	< 10
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			**0.56**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	**0.30 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	**0.20 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.3**
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	<25.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		<5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
- Indicate the analyte was detect
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical valu
MCL - USEPA Maximum Contaminant Level - National Primary Drinking
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 200
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	H17-MW-17S	H17-MW-19S		H17-MW-21S	H17-MW-22S
		Sample Date	5/25/2010	5/25/2010	5/25/2010*	5/25/2010	5/25/2010
Chemical Name	MCL	Type I RRS					
VOCs - USEPA Method 8260B (µg/L)							
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			**3.5 J**	< 10	< 10	< 10	< 10
Acetone		4,000	**28**	**5.1 J**	< 10	**1.9 J**	**3.7 J**
Benzene	5	5	**0.18 J**	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			**0.69**	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	**0.24 J**	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)							
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
- Indicate the analyte was detect
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical valu
MCL - USEPA Maximum Contaminant Level - National Primary Drinking
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 200
VOCs - Volatile Organic Compounds

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	AF-41	AF-54	AF-55	AF-55	AF-56	AF-57	AF-68	AF-69	AT-MW-1	1290-MW-2D	1290-MW-3D
		Sample Date	2/10/2010	2/10/2010	2/10/2010	2/10/2010*	2/10/2010	2/10/2010	2/10/2010	2/10/2010	2/17/2010	2/11/2010	2/11/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	**0.89**	**1.1**	**0.90**	**0.86**	< 2.5	< 0.5	**1.5**	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	**1.1 J**	**17**	**17**	**18**	< 50	**18**	**17**	**17**	< 10	**17**	**18**
Benzene	5	5	< 0.5	**0.19 J**	**0.94**	**0.93**	**3.2**	< 0.5	**1.7**	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	**48**	**52**	**110**	**110**	**15**	**0.47 J**	**79**	**3.4**	**0.63**	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	**0.24 J**	< 0.5	**1.7 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	**1.3 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		**0.24 J**	**0.24 J**	**2.3**	**2.3**	< 2.5	< 0.5	**1.4**	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	**46**	**270**	**170**	**170**	**1100**	< 0.5	**410**	**66**	**14**	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	**0.074 J**	**0.19 J**	**0.15 J**	< 2.5	< 0.5	**0.15 J**	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	**28**	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	<5.0	NA	NA

Notes:

- Indicate the analyte was detected above one or more applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).

VOCs - Volatile Organic Compounds

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	1290-MW-5D	1290-MW-7D	1290-MW-8D	1290-MW-9D	1290-MW-12D	1290-MW-13D	H17-MW-17D	H17-MW-18D	H17-MW-20D	H17-MW-21D	H17-MW-22D
		Sample Date	2/16/2010	2/11/2010	2/16/2010	2/16/2010	2/11/2010	2/16/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	**5.1**	**0.40 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.94**	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	**2.0 J**	< 10	**18**	< 10	< 10	**4.6 J**	< 10	< 10	**1.5 J**	< 10
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**5.2**	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.1**	**59**	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.6**	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.7**	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**2.6**	**280**	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- Indicate the analyte was detec

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical va

MCL - USEPA Maximum Contaminant Level - National Primary Drinking

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 20(

VOCs - Volatile Organic Compounds

Table 8-1
Risk Reduction Standard Equations for Exposure to Soil
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

ROUTE-SPECIFIC RRSs:

Oral:

$$(RRS_o)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ BW\ x\ (AT_C\ or\ AT_{NC})\ x\ (10^6\ mg/kg)}{IRs\ x\ EF\ x\ ED\ x\ [SF_O\ or\ (1/RfD_O)]}$$

Inhalation:

$$(RRS_i)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ (AT_C\ or\ AT_{NC})\ x\ BW}{[(1/VF)\ +\ (1/PEF)]\ x\ EF\ x\ ED\ x\ [SF_i\ or\ (1/RfD_I)]}$$

where:

$$PEF = \frac{LS\ x\ V\ x\ DH}{A}\ x\ \frac{(1000\ g/kg)\ x\ (3{,}600\ sec/hr)}{RPF\ x\ (1\text{-}G)\ x\ (Um/Ut)^3\ x\ F_x}$$

$$VF = \frac{LS\ x\ V\ x\ DH}{A}\ x\ \frac{(3.14\ x\ \bullet\ x\ T)^{1/2}}{2\ x\ Dei\ x\ E\ x\ Kas\ x\ (10^{-3}\ kg/g)}$$

$$\bullet = \frac{Dei\ x\ E}{E\ +\ [ps\ x\ (1\text{-}E)/Kas]}$$

$$Dei = Di\ x\ E^{0.33}$$

$$Kas = H/(RT\ x\ Kd)$$

Cancer Effects RRS:

$$RRS_C = \frac{1}{\frac{1}{(RRS_O)_C} + \frac{1}{(RRS_I)_C}}$$

Non-Cancer Effects RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{(RRS_O)_{NC}} + \frac{1}{(RRS_I)_{NC}}}$$

$$RRS = \text{Minimum result of } RRS_C \text{ and } RRS_{NC}.$$

where:

•	Alpha; calculation intermediate (cm^2/sec).
A	Contiguous area of contamination (20,250,000 cm^2; USEPA [1991] default).
AT_C	Averaging time for cancer effects (25,550 days).
AT_{NC}	Averaging time for non-cancer effects (10,950 for adult residents; 2,190 days for child residents; 9,125 days for site workers); ED x 365 days/year.
BW	Body weight (70 kg for adult receptors; 15 kg for child resident).
DH	Diffusion Height (2 m, USEPA [1991] default)
Dei	Effective diffusivity (cm^2/sec).
Di	Diffusivity in air (cm^2/sec); constituent specific.
E	Total soil porosity (0.35 unitless, USEPA default).
ED	Exposure duration (30 years for adult resident; 6 years for child resident; 25 years for site worker).
EF	Exposure frequency (350 days/year for resident receptors; 250 days/year for site worker).
Foc	Fraction organic carbon in soil (0.02 unitless, USEPA default).
Fx	Function of Ut/Um (unitless); $Fx = 0.18\ x\ [8x^3 + 12x]\ x\ \exp(-x^2)$, where $x = 0.886\ x\ (Ut/Um)$.
G	Fraction of vegetative cover (unitless) (0).
H	Henry's Law Constant (atm-m^3/mol); constituent specific.

IR_{air}	Inhalation rate (15 m^3/day for residents; 20 m^3/day for site workers).
IR_{soil}	Incidental soil ingestion rate (114 mg/day for adult resident; 200 mg/day for child resident; 50 mg/day for site worker).
Kas	Soil-air partition coefficient (g soil/ cm^3 air).
Kd	Soil-water partition coefficient (cm^3/g or mL/g); constituent specific. Kd is calculated as Foc × Koc.
Koc	Organic carbon partition coefficient (cm^3/g or mL/g); constituent specific.
LS	Length of side of contaminated area (45 m, USEPA default).
PEF	Particulate emission factor (4.63×10^9 m^3/kg, USEPA default).
ps	True soil or particle density (2.65 g/cm^3, USEPA default).
RfDi	Reference dose for inhalation (mg/kg/day).
RfDo	Reference dose for ingestion (mg/kg/day).
RPF	Respirable particle fraction (0.036 g/m^2/hr).
RRS	Risk reduction standard for soil (mg/kg); minimum of the RRS_C (based on cancer effects) and the RRS_{NC} (based on non-cancer effects), which are based on the route-specfic RRSs (RRSo for the oral route and RRSi for the inhalation route).
RT	Product of the ideal gas constant (8.206×10^{-5} atm-m^3/mol/K) and the absolute temperature (K); RT = 0.02445 atm-m^3/mol at 25ºC (298 K).
SF	Cancer slope factor or oral (SF_o) or inhalation (SF_i) exposure (kg-day/mg).
T	Exposure interval (7.9 x 108 sec, USEPA default).
TCR	Target cancer risk (unitless); results presented for TCR value of 10^{-5} (10^{-4} for Class C carcinogens).
THI	Target hazard index (unitless); results presented for THI value of 1.
Um	Wind speed, annual average (3.0 m/sec).
Ut	Equivalent threshold value of windspeed at 10 meters (12.8 m/sec).
V	Wind speed in the mixing zone (2.25 m/sec, USEPA default).
VF	Volatilization factor (m^3/kg).

SAMPLE CALCULATIONS, Tetrachloroethene, Industrial Exposure (Type 4).

$$x = 0.886 \times \frac{12.8 \text{ m/sec}}{3.0 \text{ m/sec}} = 3.780$$

$$Fx = 0.18\,[(8 \times 3.780^3) + (12 \times 3.78)] \times \exp(-(3.780^2)) = 5.36\text{E-}05$$

$$Dei = 0.079 \text{ cm}^2\text{/sec} \times (0.35)^{0.33} = 0.05587 \text{ cm}^2\text{/sec}$$

$$Kas = \frac{1.03 \times 10^{-2} \text{ atm-m}^3\text{/mol}}{(0.02445 \text{ atm-m}^3\text{/mol}) \times 0.02 \times 95.5 \text{ cm}^3\text{/g}} = 2.20\text{E-}01 \text{ g/cm}^3$$

$$\bullet = \frac{0.05587 \text{ cm}^2\text{/sec} \times 0.35}{0.35 + [2.65 \text{ g/cm}^3 \times (1 - 0.35)/2.21 \times 10^{-1} \text{ g/cm}^3)]}$$

$$= 2.40\text{E-}03 \text{ cm}^2\text{/sec}$$

$$VF = \frac{45 \text{ m} * 2.25 \text{ m/s} * 2 \text{ m}}{2.03 \times 10^7 \text{ cm}^2} \times \frac{(3.14 \times 2.4 \times 10^{-3} \text{ cm}^2\text{/sec} \times 7.9 \times 10^8 \text{ sec})^{1/2}}{2 \times 0.05587 \text{ cm}^2\text{/sec} \times 0.35 \times 2.21 \times 10^{-1} \text{ g/cm}^3 \times 10^{-3} \text{ kg/g}}$$

$$= 2{,}816 \text{ m}^3\text{/kg}$$

CANCER EFFECTS:

Oral:

$$(RRS_O)_C = \frac{10^{-5} \times 70 \text{ kg} \times 25{,}550 \text{ days} \times 10^6 \text{ mg/kg}}{50 \text{ mg/day} \times 250 \text{ days/yr} \times 25 \text{ yrs} \times (5.4 \times 10^{-1} \text{ kg-day/mg})}$$

$$= 110 \text{ mg/kg}$$

Inhalation:

$$(RRS_I)_C = \frac{10^{-5} \times 70 \text{ kg} \times 25{,}550 \text{ days}}{[(1/2{,}818 \text{ m}^3\text{/kg}) + (1/4.63 \times 10^9 \text{ m}^3\text{/kg})] \times 250 \text{ days/yr} \times 25 \text{ yrs} \times 20 \text{ m}^3\text{/day} \times (2.1 \times 10^{-2} \text{ kg-day/mg})}$$

$$= 19.2 \text{ mg/kg}$$

CANCER EFFECTS RRS:

$$RRS_C = \frac{1}{\frac{1}{110\ mg/kg} + \frac{1}{19.2\ mg/kg}} = 16\ mg/kg$$

NON-CANCER EFFECTS:

Oral:

$$(RRS_O)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days \times 10^6\ mg/kg}{50\ mg/day \times 250\ days/yr \times 25\ yrs \times [1/1.0 \times 10^{-2}\ mg/kg\text{-}day]}$$

$$= 20{,}440\ mg/kg$$

Inhalation:

$$(RRS_I)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days}{[(1/2{,}818\ m^3/kg) + (1/4.63 \times 10^9\ m^3/kg)] \times 250\ days/yr \times 25\ yrs \times 20\ m^3/day \times (1/7.7 \times 10^{-2}\ kg\text{-}day/mg)}$$

$$= 1{,}109\ mg/kg$$

NON-CANCER EFFECTS RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{20{,}440\ mg/kg} + \frac{1}{1{,}109\ mg/kg}} = 1{,}050\ mg/kg$$

RRS = Minumum result of RRS_C (17 mg/kg) and RRS_{NC} (1,050 mg/kg) = 16 mg/kg

Table 8-2
Risk Reduction Standard Equations for Exposure to Groundwater
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

ROUTE-SPECIFIC RRSs:

Oral:

$$(RRS_o)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ BW\ x\ (AT_C\ or\ AT_{NC})}{IR_w\ x\ EF\ x\ ED\ x\ [SF_O\ or\ (1/RfD_O)]}$$

Inhalation:

$$(RRS_i)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ (AT_C\ or\ AT_{NC})\ x\ BW}{K\ x\ IR_a\ x\ EF\ x\ ED\ x\ [SF_i\ or\ (1/RfD_I)]}$$

Cancer Effects RRS:

$$RRS_C = \frac{1}{\frac{1}{(RRS_O)_C} + \frac{1}{(RRS_I)_C}}$$

Non-Cancer Effects RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{(RRS_O)_{NC}} + \frac{1}{(RRS_I)_{NC}}}$$

RRS = Minimum result of RRS_C and RRS_{NC}.

where:

AT_C	Averaging time for cancer effects (25,550 days).
AT_{NC}	Averaging time for non-cancer effects (10,950 for adult residents; 2,190 days for child residents; 9,125 days for site workers); ED x 365 days/year.
BW	Body weight (70 kg for adult receptors; 15 kg for child resident).
ED	Exposure duration (30 years for adult resident; 6 years for child resident; 25 years for site worker).
EF	Exposure frequency (250 days/year).
IR_{air}	Inhalation rate (15 m^3/day for residents; 20 m^3/day for site workers).
IR_w	Ingestion rate of drinking water (2 L/day for adult residents; 1 L/day for child residents and site workers) (USEPA 1997a).
K	Volatilization factor for volatile organic compounds (VOCs) from household tap water (0.5 L/m^3) (USEPA 1991).
RfDi	Reference dose for inhalation (mg/kg/day).
RfDo	Reference dose for ingestion (mg/kg/day).
RRS	Risk reduction standard for soil (mg/L); minimum of the RRS_C (based on cancer effects) and the RRS_{NC} (based on non-cancer effects), which are based on the route-specfic RRSs (RRSo for the oral route and RRSi for the inhalation route).
TCR	Target cancer risk (unitless); results presented for TCR value of 10^{-5} (10^{-4} for Class C carcinogens).
THI	Target hazard index (unitless); results presented for THI value of 1.

SAMPLE CALCULATIONS, Tetrachloroethene, Industrial Exposure (Type 4).

CANCER EFFECTS:

Oral:

$$(RRS_O)_C = \frac{10^{-5}\ x\ 70\ kg\ x\ 25{,}550\ days}{1\ L/day\ x\ 250\ days/yr\ x\ 25\ yrs\ x\ (5.4\ x\ 10^{-1}\ kg\text{-}day/mg)}$$

$$= 0.0053\ mg/L$$

Inhalation:

$$(RRS_I)_C = \frac{10^{-5} \times 70\ kg \times 25{,}550\ days}{0.5\ L/m^3 \times 250\ days/yr \times 25\ yrs \times 20\ m^3/day \times (2.0 \times 10^{-2}\ kg\text{-}day/mg)}$$

$$= 0.014\ mg/L$$

CANCER EFFECTS RRS:

$$RRS_C = \frac{1}{\frac{1}{0.0053\ mg/L} + \frac{1}{0.014\ mg/L}} = 0.0039\ mg/L$$

NON-CANCER EFFECTS:

Oral:

$$(RRS_O)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days}{1\ L/day \times 250\ days/yr \times 25\ yrs \times [1/1.0 \times 10^{-2}\ mg/kg\text{-}day]}$$

$$= 1.0\ mg/L$$

Inhalation:

$$(RRS_I)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days}{0.5\ L/m^3 \times 250\ days/yr \times 25\ yrs \times 20\ m^3/day \times (1/7.7 \times 10^{-2}\ kg\text{-}day/mg)}$$

$$= 0.79\ mg/L$$

NON-CANCER EFFECTS RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{1.0\ mg/L} + \frac{1}{0.79\ mg/L}} = 0.44\ mg/L$$

RRS = Minumum result of RRS_C (0.00387 mg/L) and RRS_{NC} (0.445 mg/L) = 0.0039 mg/L

Table 8-3
Toxicity Values
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance		Cancer Slope Factors (kg-day/mg) CSFo Oral	ref	CSFi Inhalation	ref	Weight of Evidence	Reference Doses (mg/kg/day) RfDo Oral	ref	RfDi Inhalation	ref
Volatile Organic Compounds										
Acetone		NA		NA		D	9.0E-01	I	8.9E+00	A
2-Butanone (Methyl ethyl ketone)		NA		NA		D	6.0E-01	I	1.4E+00	I
n-Butylbenzene	[a]	NA		NA		NA	1.0E-01	Is	2.9E-01	Is
sec-Butylbenzene	[b]	NA		NA		NA	1.0E-01	Is	1.1E-01	Is
Carbon disulfide		NA		NA		NA	1.0E-01	I	2.0E-01	I
Chloroethane		NA		NA		C	NA		2.9E+00	I
Chloroform		3.1E-02	C	8.1E-02	I	B2	1.0E-02	I	2.8E-02	A
Chloromethane		NA		NA		D	NA		2.6E-02	I
1,2-Dichlorobenzene		NA		NA		D	9.0E-02	I	5.7E-02	H
1,1-Dichloroethane		5.7E-03	C	5.6E-03	C	C	2.0E-01	P	NA	
1,2-Dichloroethane		9.1E-02	I	9.1E-02	I	B2	2.0E-02	P	6.9E-01	A
1,2-Dichloroethene		NA		NA		NA	9.0E-03	H	1.7E-02	P
1,1-Dichloroethene		NA		NA		C	5.0E-02	I	5.7E-02	I
cis-1,2-Dichloroethene		NA		NA		D	2.0E-03	I	NA	
trans-1,2-Dichloroethene		NA		NA		NA	2.0E-02	I	1.7E-02	P
1,2-Dichloropropane		3.6E-02	C	3.5E-02	C	B2	9.0E-02	A	1.1E-03	I
cis-1,3-Dichloropropene	[c]	1.0E-01	Is	1.4E-02		B2	3.0E-02	Is	5.7E-03	Is
trans-1,3-Dichloropropene	[c]	1.0E-01	Is	1.4E-02		B2	3.0E-02	Is	5.7E-03	Is
CFC-12		NA		NA		NA	2.0E-01	I	5.7E-02	H
Ethylbenzene		1.1E-02	C	8.8E-03	C	D	1.0E-01	I	2.9E-01	I
2-Hexanone		NA		NA		NA	5.0E-03	I	8.6E-03	I
Isopropylbenzene		NA		NA		D	1.0E-01	I	1.1E-01	I
tert-Butyl methyl ether		1.8E-03	C	9.1E-04	C	NA	NA		8.6E-01	I
Methyl isobutyl ketone		NA		NA		NA	8.0E-02	H	8.6E-01	I
Methylene Chloride		7.5E-03	I	1.6E-03	I	B2	6.0E-02	I	2.9E-01	A
Naphthalene		NA		1.2E-01	C	C	2.0E-02	I	8.6E-04	I
n-Propylbenzene		NA		NA		NA	1.0E-01	X	2.9E-01	X
Styrene		NA		NA		NA	2.0E-01	I	2.9E-01	I
1,1,2,2-Tetrachloroethane		2.0E-01	I	NA		C	2.0E-02	I	NA	
Tetrachloroethene (PCE)		5.4E-01	C	2.1E-02	C	B2	1.0E-02	I	7.7E-02	A
Trichloroethene (TCE)		5.9E-03	C	7.0E-03	C	C-B2	NA		NA	
Vinyl Chloride		7.2E-01/1.4E+0	I	..5E-02/3.0E-0	I	A	3.0E-03	I	2.9E-02	I
Methylcyclohexane		NA		NA		NA	8.6E-01	P	NA	
Benzene		5.5E-02	I	2.7E-02	I	A	4.0E-03	I	8.6E-03	I
Toluene		NA		NA		D	8.0E-02	I	1.4E+00	I
Xylenes		NA		NA		D	2.0E-01	I	2.9E-02	I
Semi Volatile Organic Compounds										
Benzoic acid		NA		NA		D	4.0E+00	I	NA	
Di-n-butyl phthalate		NA		NA		D	1.0E-01	I	NA	
Polycyclic Aromatic Hydrocarbons										
Benzo[a]pyrene		7.3E+00	I	3.9E+00	C	B2	NA		NA	
Benzo[b]fluoranthene		7.3E-01	E	3.9E-01	C	B2	NA		NA	
Benzo[k]fluoranthene		7.3E-02	E	3.9E-01	C	B2	NA		NA	
Chrysene		7.3E-03	E	3.9E-02	C	B2	NA		NA	
Fluoranthene		NA		NA		D	4.0E-02	I	NA	
2-Methylnaphthalene		NA		NA		NA	4.0E-03	I	NA	
Naphthalene		NA		1.2E-01	C	C	2.0E-02	I	8.6E-04	I
Phenanthrene		NA		NA		D	3.0E-01	Is	NA	
Pyrene		NA		NA		D	3.0E-02	I	NA	
Inorganics										
Arsenic		1.5E+00	I	1.5E+01	I	A	3.0E-04	I	4.3E-06	C
Barium		NA		NA		D	2.0E-01	I	1.4E-04	H
Cadmium		NA		6.3E+00	I	D/B1	1E-3/5E-4	I	NA	
Chromium		5.0E-01	J	2.9E+02	I	D/A	3.0E-03	I	2.9E-05	I
Lead		NA		NA		B2	NA		NA	
Mercury		NA		NA		C	1.6E-04	C	8.6E-05	I
Selenium		NA		NA		D	5.0E-03	I	5.7E-03	C

References [ref]:
A Agency for Toxic Substances Disease Registry (ATDSR) (ATSDR 2010).
C CalEPA, Toxicity Criteria database (CalEPA 2010).
E Environmental Criteria and Assessment Office as referenced in the USEPA Regional Screening Level Table (USEPA 2010).

Table 8-3
Toxicity Values
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

H USEPA, Health Effects Summary Table (HEAST; USEPA 1997b).
I USEPA, Integrated Risk Information System (IRIS; USEPA).
J New Jersey Department of Environmental Protection s referenced in the USEPA Regional Screening Level Table (USEPA 2010).
P Provisional Peer Reviewed Toxicity Values (PPRTV) as referenced in the USEPA Regional Screening Level Table (USEPA 2010).
X PPRTV Appendix as referenced in the USEPA Regional Screening Level Table (USEPA 2010).

USEPA cancer weight-of-evidence categories are as follows:
Group A: Human Carcinogen (sufficient evidence of carcinogenicity in humans)
Group B: Probable Human Carcinogen
B1 - limited evidence of carcinogenicity in humans
B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans
Group C: Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data)
Group D: Not Classifiable as to Human Carcinogenicity (inadequate or no evidence)
Group E: Evidence of Noncarcinogenicity for Humans (no evidence of carcinogenicity in adequate studies)

CSF Cancer Slope Factor; oral (CSFo) and inhalation (CSFi).
D Not classifiable as to human carcinogenicity.
H USEPA's Health Effects Assessment Summary Tables (HEAST), FY 1995.
I USEPA's Integrated Risk Information System (IRIS), 2010.
kg-day/mg Kilogram-day per milligram.
mg/kg-day Milligram per kilogram-day.
NA Not Available.
RfD Reference Dose; oral (RfDo) and inhalation (RfDi).

[a] Ethylbenzene used as a surrogate.
[b] Cumene used as a surrogate.
[c] 1,3-Dichloropropene (mixture) used as a surrogate.

Table 8-4
Physical-Chemical Properties of the Detected Soil and Groundwater Constiutents
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Di (cm^2/sec)	Di (ref)	Dei (cm^2/sec) (calc)	H (atm-m^3/mol)	H (ref)	Koc (cm^3/g)	Koc (ref)	Kas (g/cm^3) (calc)	alpha (cm^2/sec) (calc)	VF (m^3/kg) (calc)
Volatile Organic Compounds										
Acetone	1.06E-01	USEPA 2001	7.49E-02	3.50E-05	EPI HenryWin v3.2	2.36E+00	EPI KOCWIN v2.0	3.03E-02	4.58E-04	6.72E+03
2-Butanone (Methyl ethyl ketone)	9.14E-02	USEPA 2001	6.47E-02	5.69E-05	EPI HenryWin v3.2	4.51E+00	EPI KOCWIN v2.0	2.58E-02	3.37E-04	7.83E+03
n-Butylbenzene	5.70E-02	J&E	4.03E-02	1.31E-02	J&E	1.11E+03	J&E	2.41E-02	1.97E-04	1.03E+04
sec-Butylbenzene	5.70E-02	J&E	4.03E-02	1.39E-02	J&E	9.66E+02	J&E	2.93E-02	2.39E-04	9.30E+03
Carbon disulfide	1.06E-01	USEPA 2001	7.53E-02	1.44E-02	EPI HenryWin v3.2	2.17E+01	EPI KOCWIN v2.0	1.36E+00	1.63E-02	8.89E+02
Chloroethane	1.04E-01	USEPA 2001	7.34E-02	1.11E-02	EPI HenryWin v3.2	2.17E+01	EPI KOCWIN v2.0	1.04E+00	1.28E-02	1.05E+03
Chloroform	7.69E-02	USEPA 2001	5.44E-02	3.67E-03	EPI HenryWin v3.2	3.18E+01	EPI KOCWIN v2.0	2.36E-01	2.49E-03	2.77E+03
Chloromethane	1.24E-01	USEPA 2001	8.77E-02	8.82E-03	EPI HenryWin v3.2	1.32E+01	EPI KOCWIN v2.0	1.36E+00	1.90E-02	8.21E+02
1,2-Dichlorobenzene	5.62E-02	USEPA 2001	3.97E-02	1.92E-03	EPI HenryWin v3.2	3.83E+02	EPI KOCWIN v2.0	1.03E-02	8.26E-05	1.59E+04
1,1-Dichloroethane	8.36E-02	USEPA 2001	5.92E-02	5.62E-03	EPI HenryWin v3.2	3.18E+01	EPI KOCWIN v2.0	3.61E-01	4.04E-03	2.12E+03
1,2-Dichloroethane	8.57E-02	USEPA 2001	6.06E-02	1.18E-03	EPI HenryWin v3.2	3.96E+01	EPI KOCWIN v2.0	6.09E-02	7.41E-04	5.25E+03
1,2-Dichloroethene	9.00E-02	USEPA 1987	6.37E-02	4.08E-03	EPI HenryWin v3.2	3.96E+01	EPI KOCWIN v2.0	2.11E-01	2.61E-03	2.71E+03
1,1-Dichloroethene	8.63E-02	USEPA 2001	6.10E-02	2.61E-02	EPI HenryWin v3.2	3.18E+01	EPI KOCWIN v2.0	1.68E+00	1.55E-02	8.66E+02
cis-1,2-Dichloroethene	8.84E-02	USEPA 2001	6.25E-02	4.08E-03	EPI HenryWin v3.2	3.96E+01	EPI KOCWIN v2.0	2.11E-01	2.57E-03	2.74E+03
trans-1,2-Dichloroethene	8.76E-02	USEPA 2001	6.20E-02	4.08E-03	EPI HenryWin v3.2	3.96E+01	EPI KOCWIN v2.0	2.11E-01	2.54E-03	2.75E+03
1,2-Dichloropropane	8.13E-02	USEPA 1987	5.75E-02	2.82E-03	EPI HenryWin v3.2	6.07E+01	EPI KOCWIN v2.0	9.50E-02	1.09E-03	4.30E+03
cis-1,3-Dichloropropene	8.72E-02	L90-calc	6.16E-02	2.40E-03	HSDB	4.57E+01	SCDM	1.07E-01	1.32E-03	3.90E+03
trans-1,3-Dichloropropene	8.68E-02	L90-calc	6.14E-02	1.63E-03	EPI	4.57E+01	SCDM	7.31E-02	8.98E-04	4.76E+03
CFC-12	7.77E-02	USEPA 1987	5.50E-02	3.43E-01	EPI HenryWin v3.2	4.39E+01	EPI KOCWIN v2.0	1.60E+01	4.20E-02	1.66E+02
Ethylbenzene	6.85E-02	USEPA 2001	4.84E-02	7.88E-03	EPI HenryWin v3.2	4.46E+02	EPI KOCWIN v2.0	3.61E-02	3.53E-04	7.64E+03
2-Hexanone	7.04E-02	USEPA 2001	4.98E-02	9.32E-05	EPI HenryWin v3.2	1.50E+01	EPI KOCWIN v2.0	1.27E-02	1.28E-04	1.27E+04
Isopropylbenzene	6.03E-02	USEPA 2001	4.26E-02	1.15E-02	EPI HenryWin v3.2	6.98E+02	EPI KOCWIN v2.0	3.37E-02	2.90E-04	8.43E+03
tert-Butyl methyl ether	7.53E-02	USEPA 2001	5.32E-02	5.87E-04	EPI HenryWin v3.2	1.16E+01	EPI KOCWIN v2.0	1.04E-01	1.10E-03	4.27E+03
Methyl isobutyl ketone	6.98E-02	USEPA 2001	4.93E-02	1.38E-04	EPI HenryWin v3.2	1.26E+01	EPI KOCWIN v2.0	2.24E-02	2.24E-04	9.63E+03
Methylene Chloride	9.99E-02	USEPA 2001	7.07E-02	3.25E-03	EPI HenryWin v3.2	2.17E+01	EPI KOCWIN v2.0	3.06E-01	4.14E-03	2.12E+03
Naphthalene	6.05E-02	USEPA 2001	4.28E-02	4.40E-04	EPI HenryWin v3.2	1.54E+03	EPI KOCWIN v2.0	5.83E-04	5.07E-06	6.42E+04
n-Propylbenzene	6.02E-02	USEPA 2001	4.25E-02	1.05E-02	EPI HenryWin v3.2	8.13E+02	EPI KOCWIN v2.0	2.64E-02	2.27E-04	9.55E+03
Styrene	7.11E-02	USEPA 2001	5.03E-02	2.75E-03	EPI HenryWin v3.2	4.46E+02	EPI KOCWIN v2.0	1.26E-02	1.28E-04	1.27E+04
1,1,2,2-Tetrachloroethane	4.89E-02	USEPA 2001	3.46E-02	3.67E-04	EPI HenryWin v3.2	9.49E+01	EPI KOCWIN v2.0	7.91E-03	5.55E-05	1.94E+04
Tetrachloroethene (PCE)	5.05E-02	USEPA 2001	3.57E-02	1.77E-02	EPI HenryWin v3.2	9.49E+01	EPI KOCWIN v2.0	3.81E-01	2.57E-03	2.65E+03
Trichloroethene (TCE)	6.87E-02	USEPA 2001	4.86E-02	9.85E-03	EPI HenryWin v3.2	6.07E+01	EPI KOCWIN v2.0	3.32E-01	3.07E-03	2.45E+03
Vinyl Chloride	1.07E-01	USEPA 2001	7.58E-02	2.78E-02	EPI HenryWin v3.2	2.17E+01	EPI KOCWIN v2.0	2.62E+00	2.63E-02	5.82E+02
Methylcyclohexane	7.35E-02	J&E	5.20E-02	1.03E-01	J&E	7.85E+01	J&E	2.68E+00	1.83E-02	6.92E+02
Benzene	8.95E-02	USEPA 2001	6.33E-02	5.55E-03	EPI HenryWin v3.2	1.46E+02	EPI KOCWIN v2.0	7.78E-02	9.86E-04	4.53E+03
Toluene	7.78E-02	USEPA 2001	5.50E-02	6.64E-03	EPI HenryWin v3.2	2.34E+02	EPI KOCWIN v2.0	5.81E-02	6.41E-04	5.64E+03
Xylenes	8.47E-02	USEPA 1987	5.99E-02	5.18E-03	EPI HenryWin v3.2	3.83E+02	EPI KOCWIN v2.0	2.77E-02	3.35E-04	7.86E+03
Semi Volatile Organic Compounds										
Benzoic acid	5.36E-02	J&E	3.79E-02	3.81E-08	EPI HenryWin v3.2	1.66E+01	EPI KOCWIN v2.0	4.71E-06	3.63E-08	7.59E+05
Di-n-butyl phthalate	4.38E-02	J&E	3.10E-02	1.81E-06	EPI HenryWin v3.2	1.16E+03	EPI KOCWIN v2.0	3.20E-06	2.01E-08	1.02E+06

Table 8-4
Physical-Chemical Properties of the Detected Soil and Groundwater Constiutents
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Polycyclic Aromatic Hydrocarbons										
Benzo[a]pyrene	4.30E-02	SSG2	3.04E-02	4.57E-07	EPI HenryWin v3.2	5.87E+05	EPI KOCWIN v2.0	1.59E-09	9.83E-12	4.61E+07
Benzo[b]fluoranthene	2.26E-02	J&E	1.60E-02	6.57E-07	EPI HenryWin v3.2	5.99E+05	EPI KOCWIN v2.0	2.24E-09	7.28E-12	5.36E+07
Benzo[k]fluoranthene	2.26E-02	J&E	1.60E-02	5.84E-07	EPI HenryWin v3.2	5.87E+05	EPI KOCWIN v2.0	2.03E-09	6.60E-12	5.63E+07
Chrysene	2.48E-02	J&E	1.75E-02	5.23E-06	EPI HenryWin v3.2	1.81E+05	EPI KOCWIN v2.0	5.93E-08	2.11E-10	9.95E+06
Fluoranthene	3.02E-02	J&E	2.14E-02	8.86E-06	EPI HenryWin v3.2	5.55E+04	EPI KOCWIN v2.0	3.27E-07	1.42E-09	3.84E+06
2-Methylnaphthalene	5.24E-02	USEPA 2001	3.71E-02	5.18E-04	EPI HenryWin v3.2	2.48E+03	EPI KOCWIN v2.0	4.27E-04	3.22E-06	8.06E+04
Naphthalene	6.05E-02	USEPA 2001	4.28E-02	4.40E-04	EPI HenryWin v3.2	1.54E+03	EPI KOCWIN v2.0	5.83E-04	5.07E-06	6.42E+04
Phenanthrene	5.43E-02	L90-calc	3.84E-02	2.33E-05	SCDM	2.97E+04	SCDM	1.60E-06	1.25E-08	1.29E+06
Pyrene	2.78E-02	EPA 2002	1.97E-02	1.19E-05	EPI HenryWin v3.2	5.43E+04	EPI KOCWIN v2.0	4.48E-07	1.79E-09	3.42E+06
Inorganics										
Arsenic	—	—	—	—	—	2.90E+01	Kd-SCDM	—	—	—
Barium	—	—	—	—	—	4.10E+01	Kd-SCDM	—	—	—
Cadmium	—	—	—	—	—	7.50E+01	Kd-SCDM	—	—	—
Chromium	—	—	—	—	—	1.90E+01	Kd-SCDM	—	—	—
Lead	—	—	—	—	—	9.00E+02	Kd-SCDM	—	—	—
Mercury	3.07E-02	SSL	2.17E-02	1.14E-02	SSL	5.20E+01	J&E	—	—	—
Selenium	—	—	—	—	—	3.00E+02	Kd-SCDM	—	—	—

Reference (ref)

EPI	Estimation Programs Interface Suite™, as referenced by USEPA 2010.
J&E	U.S. Environmental Protection Agency (USEPA), 2004. Intrusion into Buildings. Office of Emergency and Remedial response, Toxics Integration Branch, Washington, DC. September.
L90	Lyman, W.J., W.F. Rheel, and D.H. Rosenblatt, 1990. Handbook of Chemical Property Estimation Methods. McGraw-Hill, Inc., New York, NY.
MW90	Montgomery, J.H., and L.M. Welkom, 1990. Groundwater Chemicals Desk Reference. Lewis Publishers, Inc., Chelsea, MI. 640 pp.
RAIS	Risk Assessment Information System (U.S. Department of Energy, 2010).
RSL	U.S. Environmental Protection Agency (USEPA), 2010. Regional Screening Level Table, December. Internet Access: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.
SCDM	Superfund Chemical Database Matrix, Windows Version 1.0 (USEPA 1997c).
SSG2	Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (USEPA 2002b).
SSL	Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (USEPA 2002b), as referenced by USEPA 2010.
USEPA 2001	WATER9. Version 1.0.0.
USEPA 1987	Processes, Coefficients, and Models for Simulation Toxic Organics and Heavy Metals in Surface Waters.

Di	Diffusivity in air.	VF	Volatilization factor.	cm^3/g	Cubic centimeter per gram.
Dei	Effective diffusivity.	$atm\text{-}m^3/mole$	Atmosphere - cubic meter per mole.	g/cm^3	Gram per cubic centimeter.
H	Henry's Law Constant.	calc	Calculated.	m^3/kg	Cubic meter per kilogram.
Koc	Organic carbon partition coefficient.	cm^2/sec	Square centimeter per second.	ref	Reference.
Kas	Soil-air partition coefficient.				

Table 8-5

Comparison of Maximum Detected Soil Concentrations to Type 1 Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration (mg/kg)	Location of Maximum Detection	Type 1 RRS (mg/kg)	Source of Type 1 Standard
Volatile Organic Compounds				
Acetone	0.0988	AT-SS-1 (5/12/2006)	400	GW
2-Butanone (Methyl ethyl ketone)	0.00424	AT-SS-1 (5/12/2006)	200	GW
Carbon disulfide	0.0211	H17-PF4(12/14/2009)	400	GW
Chloroform	0.000439	AT-MW-2 (5/10/2006)	10	GW
Ethylbenzene	4.3	H17-PF3(12/11/2009)	70	GW
Isopropylbenzene	3.7	H17-PF3(12/11/2009)	21.88	A-I
Methyl isobutyl ketone	0.31	H17-PF3(12/11/2009)	3.3	A-I
1,1,2,2-Tetrachloroethane	0.000667	AT-MW-5 (5/11/2006)	0.13	A-I
Toluene	2.6	H17-PF3(12/11/2009)	100	GW
Xylenes	55	H17-PF3(12/11/2009)	1,000	GW
Semi Volatile Organic Compounds				
Benzo[b]fluoranthene	0.0474	AT-MW-2 (5/10/2006)	5.00	A-I
Benzo[k]fluoranthene	0.0153	AT-MW-4 (5/10/2006)	5.00	A-I
Benzo[a]pyrene	0.253	AT-MW-2 (5/10/2006)	1.64	A-I
Chrysene	0.0226	AT-MW-4 (5/10/2006)	5.00	A-I
Di-n-butyl phthalate	0.0432	AT-MW-2 (5/10/2006)	400	GW
Fluoranthene	0.0504	AT-MW-4 (5/10/2006)	500	A-I
Phenanthrene	0.0265	AT-MW-4 (5/10/2006)	110	A-I
Pyrene	0.0357	AT-MW-4 (5/10/2006)	500	A-I
Inorganics				
Arsenic	1.1	AT-MW-2 (5/10/2006)	20	A-III
Barium	19.7	AT-MW-2 (5/10/2006)	1,000	A-III
Cadmium	0.2	AT-SS-3 (5/12/2006)	2	A-III
Chromium	9.8	AT-MW-4 (5/10/2006)	100	A-III
Lead	17.8	AT-MW-4 (5/10/2006)	75	A-III
Mercury	0.172	AT-MW-2 (5/10/2006)	0.5	A-III
Selenium	1.9	AT-MW-1 (5/11/2006)	2	A-III

GW	Appendix III Table 1 times 100.
A-I	Appendix I notification requirement (NC) ("App I NC").
A-III	Appendix III Table 2 (16 metals).
mg/kg	Milligrams per kilogram.
PRGc-Res	Calculated default residential carcinogenic preliminary remediation goal using Equation 6 from USEPA's Risk Assessment Guidance for Superfund, Part B (USEPA 1991).
PRGnc-Res	Calculated default residential carcinogenic preliminary remediation goal using Equation 7 from USEPA's Risk Assessment Guidance for Superfund, Part B (USEPA 1991).
RRS	Risk Reduction Standard.

Table 8-6

Comparison of Maximum Detected Groundwater Concentrations to Types 1 and 2

Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Location of Maximum Detection	Type 1 RRS (mg/L)	Source of Type 1 Standard	Type 2 RRS (mg/L)	Source of Type 2 *
Volatile Organic Compounds						
Acetone	8.63	AF-62(3/10/2001)	4.0	A-III	8.0	c
Benzene	9.92	AF-07(9/28/2000)	0.0050	A-III	0.0054	a
2-Butanone (Methyl ethyl ketone)	0.0078	AF-77(10/9/2003)	2.0	A-III	2.3	c
n-Butylbenzene	0.001	B159-5 (12/3/2002)	0.010	DL	0.430	c
sec-Butylbenzene	0.001	B159-5 (12/3/2002)	0.010	DL	0.210	c
Carbon disulfide	0.0032	DPT-09(10/3/2007)	4.0	A-III	4.0	t
CFC-12	0.011	B159-3 (12/4/2002)	1.0	A-III	1.0	t
Chloroethane	0.00069	H17-MW-17S(5/25/2010)	0.010	DL	6.000	c
Chloroform	0.0047	AF-57	0.080	A-III	0.080	t
Chloromethane	0.00092	AF-32(9/25/1999)	0.010	DL	0.054	c
Isopropylbenzene	0.00081	B159-5 (12/3/2002)	0.0010	DL	0.2100	c
1,2-Dichlorobenzene	0.0022	H17-FD3(12/15/2009)	0.60	A-III	0.60	t
1,1-Dichloroethane	0.010	AF-51(12/3/2000)	4.0	A-III	4.0	t
1,2-Dichloroethane	0.0012	AF-72(12/18/2002)	0.0050	A-III	0.0050	t
1,1-Dichloroethene	0.055	MW-16S (7/19/2007)	0.0070	A-III	0.10	c
1,2-Dichloroethene	0.378	AF-52(12/2/2000)	0.0070	A-III	0.03	c
cis-1,2-Dichloroethene	0.11	AF-58(2/11/2010),AF-55(2/10/2010),AF-55(2/10/2010)	0.070	A-III	0.07	t
trans-1,2-Dichloroethene	0.0023	AF-55(2/10/2010),AF-55(2/10/2010)	0.10	A-III	0.10	t
1,2-Dichloropropane	0.0010	H17-FD2(12/15/2009)	0.0050	A-III	0.0050	t
cis-1,3-Dichloropropene	0.0020	H17-AF103(12/15/2009)	0.0020	A-III	0.006	a
trans-1,3-Dichloropropene	0.0026	H17-AF103(12/15/2009)	0.0020	A-III	0.006	a
Ethylbenzene	0.645	AF-07(9/28/2000)	0.70	A-III	0.70	t
2-Hexanone	0.040	AF-07(9/26/1999)	0.010	DL	0.015	c
tert-Butyl methyl ether	0.0036	H17-MW-18D(5/25/2010)	0.0050	DL	0.16	a

Comparison of Maximum Detected Groundwater Concentrations to Types 1 and 2
Risk Reduction Standards
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Location of Maximum Detection	Type 1 RRS (mg/L)	Source of Type 1 Standard	Type 2 RRS (mg/L)	Source of Type 2 *
Methylene Chloride	0.017	AF-41(6/8/2001)	0.0050	A-III	0.062	a
Methyl isobutyl ketone	0.0035	H17-MW-17S(5/25/2010)	2.0	A-III	2.0	t
n-Propylbenzene	0.00062	B159-5 (12/3/2002)	0.0010	DL	0.43	c
Styrene	0.00052	AF-30(9/26/1999)	0.10	A-III	0.50	c
1,1,2,2-Tetrachloroethane	0.00044	DPT-08(10/3/2007)	0.0050	A-III	0.0050	t
Tetrachloroethene (PCE)	0.00069	AF-49(12/3/2000)	0.0050	A-III	0.0050	t
Toluene	0.039	AF-07(9/28/2000)	1.0	A-III	1.0	t
Trichloroethene (TCE)	7.73	AF-52(12/2/2000)	0.0050	A-III	0.0260	a
Vinyl Chloride	0.027	MW-16S (7/19/2007)	0.0020	A-III	0.0260	c
Xylenes	0.246	AF-07(9/26/1999)	10	A-III	10	t
Semi Volatile Organic Compounds						
Benzoic acid	0.015	AT-MW-4 (7/24/2006)	0.020	DL	63.000	c
2-Methylnaphthalene	0.0035	AT-MW-5 (7/24/2006)	0.010	DL	0.063	c
Naphthalene	0.0062	B159-5 (12/3/2002)	0.020	A-III	0.020	t
Inorganics						
Barium	0.060	AT-MW-3 (7/24/2006)	2.0	A-III	2.0	t
Cadmium	0.00051	AT-MW-1 (7/23/2006)	0.0050	A-III	0.0050	t
Chromium	0.016	AT-MW-1 (7/23/2006)	0.10	A-III	0.10	t

	Risk Reduction Standard exceeded.
*	Source of Type 2 RRS: "a" for Adult RRS, "c" for Child RRS, and "t" for Type 1 RRS.
A-III	Appendix III Table 1.
DL	Detection limit.
mg/L	Milligrams per liter.
RRS	Risk Reduction Standard.

Table 8-7

Risk Reduction Standards for Groundwater Based on Residential Adult (Type 2) Exposure

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	CANCER EFFECTS Route-Specific RRS (mg/L) Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Inhalation	RRSnc (mg/L)	RRS (mg/L)
Volatile Organic Compounds							
Acetone	NA	NA	NA	3.3E+01	8.6E+01	24	24
Benzene	1.5E-02	8.3E-03	0.0054	1.5E-01	8.3E-02	0.053	0.0054
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	2.2E+01	1.4E+01	8.5	8.5
n-Butylbenzene	NA	NA	NA	3.7E+00	2.8E+00	1.6	1.6
sec-Butylbenzene	NA	NA	NA	3.7E+00	1.1E+00	0.85	0.85
Carbon disulfide	NA	NA	NA	3.7E+00	1.9E+00	1.3	1.3
CFC-12	NA	NA	NA	7.3E+00	5.6E-01	0.52	0.52
Chloroethane	NA	NA	NA	NA	2.8E+01	28	28
Chloroform	2.7E-02	2.8E-03	0.0026	3.7E-01	2.7E-01	0.16	0.0026
Chloromethane	NA	NA	NA	NA	2.5E-01	0.25	0.25
Isopropylbenzene	NA	NA	NA	3.7E+00	1.1E+00	0.85	0.85
1,2-Dichlorobenzene	NA	NA	NA	3.3E+00	5.6E-01	0.48	0.48
1,1-Dichloroethane	1.5E-01	4.1E-02	0.032	7.3E+00	NA	7.3	0.032
1,2-Dichloroethane	9.4E-03	2.5E-03	0.002	7.3E-01	6.7E+00	0.66	0.002
1,1-Dichloroethene	NA	NA	NA	1.8E+00	5.6E-01	0.43	0.43
1,2-Dichloroethene	NA	NA	NA	3.3E-01	1.7E-01	0.11	0.11
cis-1,2-Dichloroethene	NA	NA	NA	7.3E-02	NA	0.073	0.073
trans-1,2-Dichloroethene	NA	NA	NA	7.3E-01	1.7E-01	0.14	0.14
1,2-Dichloropropane	2.4E-02	6.5E-03	0.0051	3.3E+00	1.1E-02	0.011	0.0051
cis-1,3-Dichloropropene	8.5E-03	1.6E-02	0.0056	1.1E+00	5.6E-02	0.053	0.0056
trans-1,3-Dichloropropene	8.5E-03	1.6E-02	0.0056	1.1E+00	5.6E-02	0.053	0.0056
Ethylbenzene	7.7E-02	2.6E-02	0.019	3.7E+00	2.8E+00	1.6	0.019
2-Hexanone	NA	NA	NA	1.8E-01	8.3E-02	0.057	0.057
tert-Butyl methyl ether	4.7E-01	2.5E-01	0.16	NA	8.3E+00	8.3	0.16
Methylene Chloride	1.1E-01	1.4E-01	0.062	2.2E+00	2.8E+00	1.2	0.062
Methyl isobutyl ketone	NA	NA	NA	2.9E+00	8.3E+00	2.2	2.2
n-Propylbenzene	NA	NA	NA	3.7E+00	2.8E+00	1.6	1.6
Styrene	NA	NA	NA	7.3E+00	2.8E+00	2	2
1,1,2,2-Tetrachloroethane	4.3E-03	NA	0.0043	7.3E-01	NA	0.73	0.0043
Tetrachloroethene (PCE)	1.6E-03	1.1E-02	0.0014	3.7E-01	7.5E-01	0.25	0.0014

Table 8-7

Risk Reduction Standards for Groundwater Based on Residential Adult (Type 2) Exposure

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Toluene	NA	NA	NA	2.9E+00	1.4E+01	2.4	2.4
Trichloroethene (TCE)	1.4E-01	3.2E-02	0.026	NA	NA	NA	0.026
Vinyl Chloride	7.2E-01/1.4E+0	.5E-02/3.0E-02	2E-01/1.4E+00	1.1E-01	2.8E-01	0.079	0.079
Xylenes	NA	NA	NA	7.3E+00	2.8E-01	0.27	0.27
Semi Volatile Organic Compounds							
Benzoic acid	NA	NA	NA	1.5E+02	NA	150	150
2-Methylnaphthalene	NA	NA	NA	1.5E-01	NA	0.15	0.15
Naphthalene	NA	1.9E-03	0.0019	7.3E-01	8.3E-03	0.0082	0.0019
Inorganics							
Barium	NA	NA	NA	7.3E+00	1.4E-03	0.0014	0.0014
Cadmium	NA	3.6E-05	3.6E-05	1.8E-02	NA	0.018	0.000036
Chromium	1.7E-03	7.7E-07	7.7E-07	1.1E-01	2.8E-04	0.00028	0.00000077

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L Milligrams per liter.
NA Not available; insufficient toxicity data.
RRS Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc) and the non-cancer-effects (RRSnc).

Table 8-8
Risk Reduction Standards for Groundwater Based on Residential Child (Type 2) Exposure
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Volatile Organic Compounds							
Acetone	NA	NA	NA	1.4E+01	1.8E+01	8.0	8.0
Benzene	3.3E-02	8.9E-03	0.0070	6.3E-02	1.8E-02	0.014	0.0070
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	9.4E+00	3.0E+00	2.3	2.3
n-Butylbenzene	NA	NA	NA	1.6E+00	6.0E-01	0.4	0.43
sec-Butylbenzene	NA	NA	NA	1.6E+00	2.4E-01	0.21	0.21
Carbon disulfide	NA	NA	NA	1.6E+00	4.2E-01	0.33	0.33
CFC-12	NA	NA	NA	3.1E+00	1.2E-01	0.11	0.11
Chloroethane	NA	NA	NA	NA	6.0E+00	6.0	6.0
Chloroform	5.9E-02	3.0E-03	0.0029	1.6E-01	5.8E-02	0.043	0.0029
Chloromethane	NA	NA	NA	NA	5.4E-02	0.054	0.054
Isopropylbenzene	NA	NA	NA	1.6E+00	2.4E-01	0.21	0.21
1,2-Dichlorobenzene	NA	NA	NA	1.4E+00	1.2E-01	0.11	0.11
1,1-Dichloroethane	3.2E-01	4.3E-02	0.038	3.1E+00	NA	3.1	0.038
1,2-Dichloroethane	2.0E-02	2.7E-03	0.0024	3.1E-01	1.4E+00	0.26	0.0024
1,1-Dichloroethene	NA	NA	NA	7.8E-01	1.2E-01	0.10	0.10
1,2-Dichloroethene	NA	NA	NA	1.4E-01	3.6E-02	0.029	0.03
cis-1,2-Dichloroethene	NA	NA	NA	3.1E-02	NA	0.031	0.03
trans-1,2-Dichloroethene	NA	NA	NA	3.1E-01	3.6E-02	0.032	0.032
1,2-Dichloropropane	5.1E-02	7.0E-03	0.0061	1.4E+00	2.4E-03	0.0024	0.0024
cis-1,3-Dichloropropene	1.8E-02	1.7E-02	0.0089	4.7E-01	1.2E-02	0.012	0.009
trans-1,3-Dichloropropene	1.8E-02	1.7E-02	0.0089	4.7E-01	1.2E-02	0.012	0.009
Ethylbenzene	1.7E-01	2.8E-02	0.024	1.6E+00	6.0E-01	0.43	0.024
2-Hexanone	NA	NA	NA	7.8E-02	1.8E-02	0.02	0.015
tert-Butyl methyl ether	1.0E+00	2.7E-01	0.21	NA	1.8E+00	1.8	0.21
Methylene Chloride	2.4E-01	1.5E-01	0.092	9.4E-01	6.0E-01	0.36	0.092
Methyl isobutyl ketone	NA	NA	NA	1.3E+00	1.8E+00	0.74	0.74
n-Propylbenzene	NA	NA	NA	1.6E+00	6.0E-01	0.43	0.43
Styrene	NA	NA	NA	3.1E+00	6.0E-01	0.50	0.50
1,1,2,2-Tetrachloroethane	9.1E-03	NA	0.0091	3.1E-01	NA	0.31	0.0091

Table 8-8
Risk Reduction Standards for Groundwater Based on Residential Child (Type 2) Exposure
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Tetrachloroethene (PCE)	3.4E-03	1.2E-02	0.0026	1.6E-01	1.6E-01	0.079	0.0026
Toluene	NA	NA	NA	1.3E+00	3.0E+00	0.88	0.88
Trichloroethene (TCE)	3.1E-01	3.5E-02	0.031	NA	NA	NA	0.031
Vinyl Chloride	7.2E-01/1.4E+0	.5E-02/3.0E-02	2E-01/1.4E+00	4.7E-02	6.0E-02	0.026	0.026
Xylenes	NA	NA	NA	3.1E+00	6.0E-02	0.058	0.058
Semi Volatile Organic Compounds							
Benzoic acid	NA	NA	NA	6.3E+01	NA	63	63
2-Methylnaphthalene	NA	NA	NA	6.3E-02	NA	0.063	0.063
Naphthalene	NA	2.0E-03	0.002	3.1E-01	1.8E-03	0.0018	0.0018
Inorganics							
Barium	NA	NA	NA	3.1E+00	3.0E-04	0.0003	0.0003
Cadmium	NA	3.9E-05	3.9E-05	7.8E-03	NA	0.0078	0.000039
Chromium	3.7E-03	8.3E-07	8.3E-07	4.7E-02	6.0E-05	0.00006	0.00000083

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L Milligrams per liter.
NA Not available; insufficient toxicity data.
NC Not a suspected carcinogen.
RRS Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc) and the non-cancer-effects (RRSnc).

Table 8-9
Comparison of Maximum Detected Groundwater Concentrations to
Types 3 and 4 Risk Reduction Standards
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Location of Maximum Detection	Type 3 RRS (mg/L)	Source of Type 3 Standard	Type 4 RRS (mg/L)	
Volatile Organic Compounds						
Acetone	8.63	AF-62(3/10/2001)	4.0	A-III	46	
Benzene	9.92	AF-07(9/28/2000)	0.0050	A-III	0.0087	
2-Butanone (Methyl ethyl ketone)	0.0078	AF-77(10/9/2003)	2.0	A-III	12	
n-Butylbenzene	0.001	B159-5 (12/3/2002)	0.010	DL	2.3	
sec-Butylbenzene	0.001	B159-5 (12/3/2002)	0.010	DL	1.0	
Carbon disulfide	0.0032	DPT-09(10/3/2007)	4.0	A-III	4.0	*
CFC-12	0.011	B159-3 (12/4/2002)	1.0	A-III	1.0	*
Chloroethane	0.00069	H17-MW-17S(5/25/2010)	0.010	DL	29	
Chloroform	0.0047	AF-57	0.080	A-III	0.080	*
Chloromethane	0.00092	AF-32(9/25/1999)	0.010	DL	0.26	
Isopropylbenzene	0.00081	B159-5 (12/3/2002)	0.0010	DL	1.0	
1,2-Dichlorobenzene	0.0022	H17-FD3(12/15/2009)	0.60	A-III	0.60	*
1,1-Dichloroethane	0.010	AF-51(12/3/2000)	4.0	A-III	4.0	*
1,2-Dichloroethane	0.0012	AF-72(12/18/2002)	0.0050	A-III	0.0050	*
1,1-Dichloroethene	0.055	MW-16S (7/19/2007)	0.0070	A-III	0.52	
1,2-Dichloroethene	0.378	AF-52(12/2/2000)	0.0070	A-III	0.15	
cis-1,2-Dichloroethene	0.11	AF-58(2/11/2010),AF-55(2/10/2010),AF-55(2/10/2010)	0.070	A-III	0.2	
trans-1,2-Dichloroethene	0.0023	AF-55(2/10/2010),AF-55(2/10/2010)	0.10	A-III	0.16	
1,2-Dichloropropane	0.0010	H17-FD2(12/15/2009)	0.0050	A-III	0.0074	
cis-1,3-Dichloropropene	0.0020	H17-AF103(12/15/2009)	0.0020	A-III	0.012	
trans-1,3-Dichloropropene	0.0026	H17-AF103(12/15/2009)	0.0020	A-III	0.012	
Ethylbenzene	0.645	AF-07(9/28/2000)	0.70	A-III	0.70	*
2-Hexanone	0.040	AF-07(9/26/1999)	0.010	DL	0.075	
tert-Butyl methyl ether	0.0036	H17-MW-18D(5/25/2010)	0.0050	DL	0.26	
Methylene Chloride	0.017	AF-41(6/8/2001)	0.0050	A-III	0.12	
Methyl isobutyl ketone	0.0035	H17-MW-17S(5/25/2010)	2.0	A-III	4.2	
n-Propylbenzene	0.00062	B159-5 (12/3/2002)	0.0010	DL	2.3	
Styrene	0.00052	AF-30(9/26/1999)	0.10	A-III	2.6	
1,1,2,2-Tetrachloroethane	0.00044	DPT-08(10/3/2007)	0.0050	A-III	0.0140	
Tetrachloroethene (PCE)	0.00069	AF-49(12/3/2000)	0.0050	A-III	0.0050	*
Toluene	0.039	AF-07(9/28/2000)	1.0	A-III	5.2	
Trichloroethene (TCE)	7.73	AF-52(12/2/2000)	0.0050	A-III	0.038	
Vinyl Chloride	0.027	MW-16S (7/19/2007)	0.0020	A-III	0.15	
Xylenes	0.246	AF-07(9/26/1999)	10	A-III	10	*
Semi Volatile Organic Compounds						*
Benzoic acid	0.015	AT-MW-4 (7/24/2006)	0.020	DL	410	
2-Methylnaphthalene	0.0035	AT-MW-5 (7/24/2006)	0.010	DL	0.41	
Naphthalene	0.0062	B159-5 (12/3/2002)	0.020	A-III	0.020	*
Inorganics						*
Barium	0.060	AT-MW-3 (7/24/2006)	2.0	A-III	2.0	*
Cadmium	0.00051	AT-MW-1 (7/23/2006)	0.0050	A-III	0.051	
Chromium	0.016	AT-MW-1 (7/23/2006)	0.10	A-III	0.10	*

	Risk Reduction Standard exceeded.
*	Type 3 RRS used for Type 4 RRS.
A-III	Appendix III Table 1.
DL	Detection limit.
mg/L	Milligrams per liter.
RRS	Risk Reduction Standard.

Table 8-10

Risk Reduction Standards for Groundwater Based on Industrial (Type 4) Exposure

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Volatile Organic Compounds							
Acetone	NA	NA	NA	9.2E+01	9.1E+01	46	46
Benzene	5.2E-02	1.0E-02	0.0087	4.1E-01	8.8E-02	0.072	0.0087
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	6.1E+01	1.5E+01	12	12
n-Butylbenzene	NA	NA	NA	1.0E+01	2.9E+00	2.3	2.3
sec-Butylbenzene	NA	NA	NA	1.0E+01	1.2E+00	1	1
Carbon disulfide	NA	NA	NA	1.0E+01	2.0E+00	1.7	1.7
CFC-12	NA	NA	NA	2.0E+01	5.8E-01	0.57	0.57
Chloroethane	NA	NA	NA	NA	2.9E+01	29	29
Chloroform	9.2E-02	3.6E-03	0.0034	1.0E+00	2.9E-01	0.22	0.0034
Chloromethane	NA	NA	NA	NA	2.6E-01	0.26	0.26
Isopropylbenzene	NA	NA	NA	1.0E+01	1.2E+00	1	1
1,2-Dichlorobenzene	NA	NA	NA	9.2E+00	5.8E-01	0.55	0.55
1,1-Dichloroethane	5.0E-01	5.1E-02	0.046	2.0E+01	NA	20	0.046
1,2-Dichloroethane	3.1E-02	3.1E-03	0.0029	2.0E+00	7.0E+00	1.6	0.0029
1,1-Dichloroethene	NA	NA	NA	5.1E+00	5.8E-01	0.52	0.52
1,2-Dichloroethene	NA	NA	NA	9.2E-01	1.8E-01	0.15	0.15
cis-1,2-Dichloroethene	NA	NA	NA	2.0E-01	NA	0.2	0.2
trans-1,2-Dichloroethene	NA	NA	NA	2.0E+00	1.8E-01	0.16	0.16
1,2-Dichloropropane	7.9E-02	8.2E-03	0.0074	9.2E+00	1.2E-02	0.012	0.0074
cis-1,3-Dichloropropene	2.9E-02	2.0E-02	0.012	3.1E+00	5.8E-02	0.057	0.012
trans-1,3-Dichloropropene	2.9E-02	2.0E-02	0.012	3.1E+00	5.8E-02	0.057	0.012
Ethylbenzene	2.6E-01	3.3E-02	0.029	1.0E+01	2.9E+00	2.3	0.029
2-Hexanone	NA	NA	NA	5.1E-01	8.8E-02	0.075	0.075
tert-Butyl methyl ether	1.6E+00	3.1E-01	0.26	NA	8.8E+00	8.8	0.26
Methylene Chloride	3.8E-01	1.7E-01	0.12	6.1E+00	2.9E+00	2	0.12
Methyl isobutyl ketone	NA	NA	NA	8.2E+00	8.8E+00	4.2	4.2
n-Propylbenzene	NA	NA	NA	1.0E+01	2.9E+00	2.3	2.3
Styrene	NA	NA	NA	2.0E+01	2.9E+00	2.6	2.6
1,1,2,2-Tetrachloroethane	1.4E-02	NA	0.014	2.0E+00	NA	2	0.014
Tetrachloroethene (PCE)	5.3E-03	1.4E-02	0.0038	1.0E+00	7.9E-01	0.45	0.0038
Toluene	NA	NA	NA	8.2E+00	1.5E+01	5.2	5.2
Trichloroethene (TCE)	4.9E-01	4.1E-02	0.038	NA	NA	NA	0.038
Vinyl Chloride	7.2E-01/1.4E+0	.5E-02/3.0E-02	2E-01/1.4E+00	3.1E-01	2.9E-01	0.15	0.15

Table 8-10

Risk Reduction Standards for Groundwater Based on Industrial (Type 4) Exposure

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	CANCER EFFECTS Route-Specific RRS (mg/L) Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Inhalation	RRSnc (mg/L)	RRS (mg/L)
Xylenes	NA	NA	NA	2.0E+01	2.9E-01	0.29	0.29
Semi Volatile Organic Compounds							
Benzoic acid	NA	NA	NA	4.1E+02	NA	410	410
2-Methylnaphthalene	NA	NA	NA	4.1E-01	NA	0.41	0.41
Naphthalene	NA	2.4E-03	0.0024	2.0E+00	8.8E-03	0.0087	0.0024
Inorganics							
Barium	NA	NA	NA	2.0E+01	1.5E-03	0.0015	0.0015
Cadmium	NA	NA	NA	5.1E-02	NA	0.051	0.051
Chromium	5.7E-03	9.7E-07	9.7E-07	3.1E-01	2.9E-04	0.00029	0.00000097

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L	Milligrams per liter.
NA	Not available; insufficient toxicity data.
NC	Not a suspected carcinogen.
RRS	Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc) and the non-cancer-effects (RRSr

Table 8-11

Comparison of Maximum Sediment Concentrations to Type 1 Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration (mg/kg)	Type 1 RRS (mg/kg)	Source of Type 1 Standard	Type 1 Standard Exceeded?
Volatile Organic Compounds				
Acetone	0.12	400	GW	no
Benzene	0.018	0.50	GW	no
2-Butanone (Methyl ethyl ketone)	0.037	200	GW	no
Cyclohexane	0.0018	10.00	GW	no
Ethylbenzene	0.0036	70	GW	no
Isopropylbenzene	0.00057	21.88	A-I	no
tert-Butyl methyl ether	0.00058	580	PRGnc-Res	no
Tetrachloroethene (PCE)	0.052	0.50	GW	no
Toluene	0.00084	100	GW	no
Xylenes	0.010	1,000	GW	no

A-1	Appendix I notification requirement (NC) ("App I NC").
GW	Appendix III Table 1 times 100.
mg/kg	Milligrams per kilogram.
PRGc-Res	default residential
PRGnc-Res	default residential
RRS	Risk Reduction Standard.

Table 8-12

Comparison of Maximum Surface Water Concentrations to Type 1

Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Type 1 RRS (mg/L)	Source of Type 1 Standard	Type 1 Standard Exceeded?
Volatile Organic Compounds				
Acetone	0.0078	4.0	A-III	no
Benzene	0.00022	0.0050	A-III	no

A-III	Appendix III Table 1.
mg/L	Milligrams per liter.
RRS	Risk Reduction Standard.

Table 8-13
Current Groundwater Risk Assessment Dataset
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent [a]	CASN	Frequency of Detection (FOD) [b]		Detects		Detection Limits		Maximum Location
		number of detects / number of samples	FOD %	Min - Max (mg/L)		Min - Max (mg/L)		
Volatile Organic Compounds (VOCs)								
Acetone	67-64-1	3 - 12	25	0.0032	0.0069	0.0019	0.01	H17-AF102(12/15/2009)
Carbon disulfide	75-15-0	6 - 12	50	0.00036	0.0013	0.00036	0.00075	H17-FD3(12/15/2009)
Chloromethane	74-87-3	1 - 12	8.33	0.00032	0.00032	0.0005	0.0005	H17-PF1(12/15/2009)
1,2-Dichlorobenzene	95-50-1	2 - 12	16.7	0.00073	0.0022	0.0005	0.0005	H17-FD3(12/15/2009)
1,1-Dichloroethane	75-34-3	1 - 12	8.33	0.0071	0.0071	0.0005	0.0005	H17-FD2(12/15/2009)
1,1-Dichloroethene	75-35-4	2 - 12	16.7	0.00021	0.0024	0.0005	0.0005	H17-FD2(12/15/2009)
cis-1,2-Dichloroethene	156-59-2	7 - 12	58.3	0.00018	0.0075	0.0005	0.0005	H17-PF2(12/17/2009)
1,2-Dichloropropane	78-87-5	1 - 12	8.33	0.00099	0.00099	0.0005	0.0005	H17-FD2(12/15/2009)
cis-1,3-Dichloropropene	10061-01-5	1 - 12	8.33	0.002	0.002	0.0005	0.0005	H17-AF103(12/15/2009)
trans-1,3-Dichloropropene	10061-02-6	1 - 12	8.33	0.0026	0.0026	0.0005	0.0005	H17-AF103(12/15/2009)
4-Methyl-2-pentanone (Methyl isobutyl ketone)	108-10-1	2 - 12	16.7	0.00037	0.00078	0.01	0.01	H17-AF103(12/15/2009)
Trichloroethene (TCE)	79-01-6	4 - 12	33.3	0.00038	0.0022	0.0005	0.0005	H17-PF1(12/15/2009)

– Not detected/ not analyzed/ not applicable.
CASN Chemical abstracts registry number.
mg/L Milligrams per liter.
ND Non-detects.

[a] Only constituents detected at least once in site groundwater are presented.
For duplicate samples, the highest detected value or the lowest detection limit were used.
[b] Frequency of detection (FOD) = number of detects / total number of samples analyzed.

Table 8-14
Summary of Input Parameters For Current Groundwater
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Chemical
67641	6.90E+00	Acetone
75150	1.30E+00	Carbon Disulfide
74873	3.20E-01	Chloromethane
95501	2.20E+00	1,2-Dichlorobenzene
75343	7.10E+00	1,1-Dichloroethane
75354	2.40E+00	1,1-Dichloroethene
156592	7.50E+00	cis-1,2-Dichloroethene
78875	9.90E-01	1,2-Dichloropropane
10061015	2.00E+00	cis-1,3-Dichloropropene
10061026	2.60E+00	trans-1,3-Dichloropropene
108101	7.80E-01	4-Methyl-2-pentanone
79016	2.20E+00	Trichloroethene

ENTER Average soil/ groundwater temperature, T_S (^{0}C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hrs/days)
70	30	30	350	1.0E-06	1	24

Table 8-15
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_{A} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.78E-02	1.41E-03	9.49E-03	7.94E+00	9.95E+01	1.78E-02	5.72E+60	9.42E-04	7.48E-03	NA	3.1E+01
Carbon Disulfide	1.17E-02	4.86E-01	1.78E-04	1.78E-02	7.06E-04	6.32E-03	6.32E+02	9.95E+01	1.78E-02	5.90E+60	6.99E-04	4.42E-01	NA	7.0E-01
Chloromethane	1.33E-03	5.54E-02	1.78E-04	9.05E-03	3.70E-04	3.28E-03	1.77E+01	9.95E+01	9.05E-03	2.35E+119	4.08E-04	7.23E-03	NA	2.0E-01
1,2-Dichlorobenzene	1.33E-03	5.54E-02	1.78E-04	9.05E-03	3.70E-04	3.28E-03	1.22E+02	9.95E+01	9.05E-03	2.35E+119	4.08E-04	4.97E-02	NA	2.0E-01
1,1-Dichloroethane	4.45E-03	1.85E-01	1.78E-04	1.36E-02	5.42E-04	4.84E-03	1.32E+03	9.95E+01	1.36E-02	3.81E+79	5.66E-04	7.45E-01	1.6E-06	NA
1,1-Dichloroethene	2.14E-02	8.89E-01	1.78E-04	1.39E-02	5.52E-04	4.93E-03	2.13E+03	9.95E+01	1.39E-02	5.38E+77	5.75E-04	1.23E+00	NA	2.0E-01
cis-1,2-Dichloroethene	3.20E-03	1.33E-01	1.78E-04	1.42E-02	5.70E-04	5.08E-03	1.00E+03	9.95E+01	1.42E-02	9.20E+75	5.89E-04	5.89E-01	NA	NA
1,2-Dichloropropane	2.15E-03	8.96E-02	1.78E-04	1.31E-02	5.27E-04	4.69E-03	8.87E+01	9.95E+01	1.31E-02	3.38E+82	5.52E-04	4.89E-02	1.0E-05	4.0E-03
cis-1,3-Dichloropropene	1.80E-03	7.48E-02	1.78E-04	1.41E-02	5.66E-04	5.04E-03	1.50E+02	9.95E+01	1.41E-02	5.07E+76	5.86E-04	8.76E-02	4.0E-06	2.0E-02
trans-1,3-Dichloropropene	1.22E-03	5.09E-02	1.78E-04	1.40E-02	5.68E-04	5.04E-03	1.32E+02	9.95E+01	1.40E-02	1.08E+77	5.86E-04	7.75E-02	4.0E-06	2.0E-02
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.93E-04	4.80E-03	3.29E+00	9.95E+01	1.13E-02	3.09E+95	5.62E-04	1.85E-03	NA	3.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.12E-02	4.44E-04	3.97E-03	6.90E+02	9.95E+01	1.12E-02	7.61E+96	4.80E-04	3.32E-01	2.0E-06	NA

Table 8-16
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	2.3E-07
Carbon Disulfide	NA	NA	NA	2.16E+06	NA	NA	6.1E-04
Chloromethane	NA	NA	NA	1.56E+05	NA	NA	3.5E-05
1,2-Dichlorobenzene	NA	NA	NA	1.56E+05	NA	NA	2.4E-04
1,1-Dichloroethane	NA	NA	NA	5.04E+06	NA	4.9E-07	NA
1,1-Dichloroethene	NA	NA	NA	2.42E+06	NA	NA	5.9E-03
cis-1,2-Dichloroethene	NA	NA	NA	6.41E+06	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	2.80E+06	NA	2.0E-07	1.2E-02
cis-1,3-Dichloropropene	NA	NA	NA	2.72E+06	NA	1.4E-07	4.2E-03
trans-1,3-Dichloropropene	NA	NA	NA	2.72E+06	NA	1.3E-07	3.7E-03
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	5.9E-07
Trichloroethene	NA	NA	NA	1.28E+06	NA	2.7E-07	NA
Total Risk and Hazard						**1E-06**	**0.03**

Table 8-17
Summary of Input Parameters For Current Groundwater
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Chemical
67641	6.90E+00	Acetone
75150	1.30E+00	Carbon Disulfide
74873	3.20E-01	Chloromethane
95501	2.20E+00	1,2-Dichlorobenzene
75343	7.10E+00	1,1-Dichloroethane
75354	2.40E+00	1,1-Dichloroethene
156592	7.50E+00	cis-1,2-Dichloroethene
78875	9.90E-01	1,2-Dichloropropane
10061015	2.00E+00	cis-1,3-Dichloropropene
10061026	2.60E+00	trans-1,3-Dichloropropene
108101	7.80E-01	4-Methyl-2-pentanone
79016	2.20E+00	Trichloroethene

ENTER Average soil/ groundwater temperature, T_S (^{0}C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hrs/days)
70	25	25	250	1.0E-06	1	8

Table 8-18
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_{A} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.78E-02	1.41E-03	9.49E-03	7.94E+00	9.95E+01	1.78E-02	5.72E+60	9.42E-04	7.48E-03	NA	3.1E+01
Carbon Disulfide	1.17E-02	4.86E-01	1.78E-04	1.78E-02	7.06E-04	6.32E-03	6.32E+02	9.95E+01	1.78E-02	5.90E+60	6.99E-04	4.42E-01	NA	7.0E-01
Chloromethane	1.33E-03	5.54E-02	1.78E-04	9.05E-03	3.70E-04	3.28E-03	1.77E+01	9.95E+01	9.05E-03	2.35E+119	4.08E-04	7.23E-03	NA	2.0E-01
1,2-Dichlorobenzene	1.33E-03	5.54E-02	1.78E-04	9.05E-03	3.70E-04	3.28E-03	1.22E+02	9.95E+01	9.05E-03	2.35E+119	4.08E-04	4.97E-02	NA	2.0E-01
1,1-Dichloroethane	4.45E-03	1.85E-01	1.78E-04	1.36E-02	5.42E-04	4.84E-03	1.32E+03	9.95E+01	1.36E-02	3.81E+79	5.66E-04	7.45E-01	1.6E-06	NA
1,1-Dichloroethene	2.14E-02	8.89E-01	1.78E-04	1.39E-02	5.52E-04	4.93E-03	2.13E+03	9.95E+01	1.39E-02	5.38E+77	5.75E-04	1.23E+00	NA	2.0E-01
cis-1,2-Dichloroethene	3.20E-03	1.33E-01	1.78E-04	1.42E-02	5.70E-04	5.08E-03	1.00E+03	9.95E+01	1.42E-02	9.20E+75	5.89E-04	5.89E-01	NA	NA
1,2-Dichloropropane	2.15E-03	8.96E-02	1.78E-04	1.31E-02	5.27E-04	4.69E-03	8.87E+01	9.95E+01	1.31E-02	3.38E+82	5.52E-04	4.89E-02	1.0E-05	4.0E-03
cis-1,3-Dichloropropene	1.80E-03	7.48E-02	1.78E-04	1.41E-02	5.66E-04	5.04E-03	1.50E+02	9.95E+01	1.41E-02	5.07E+76	5.86E-04	8.76E-02	4.0E-06	2.0E-02
trans-1,3-Dichloropropene	1.22E-03	5.09E-02	1.78E-04	1.40E-02	5.68E-04	5.04E-03	1.32E+02	9.95E+01	1.40E-02	1.08E+77	5.86E-04	7.75E-02	4.0E-06	2.0E-02
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.93E-04	4.80E-03	3.29E+00	9.95E+01	1.13E-02	3.09E+95	5.62E-04	1.85E-03	NA	3.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.12E-02	4.44E-04	3.97E-03	6.90E+02	9.95E+01	1.12E-02	7.61E+96	4.80E-04	3.32E-01	2.0E-06	NA

Table 8-19
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 12907 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	5.5E-08
Carbon Disulfide	NA	NA	NA	2.16E+06	NA	NA	1.4E-04
Chloromethane	NA	NA	NA	1.56E+05	NA	NA	8.3E-06
1,2-Dichlorobenzene	NA	NA	NA	1.56E+05	NA	NA	5.7E-05
1,1-Dichloroethane	NA	NA	NA	5.04E+06	NA	9.7E-08	NA
1,1-Dichloroethene	NA	NA	NA	2.42E+06	NA	NA	1.4E-03
cis-1,2-Dichloroethene	NA	NA	NA	6.41E+06	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	2.80E+06	NA	4.0E-08	2.8E-03
cis-1,3-Dichloropropene	NA	NA	NA	2.72E+06	NA	2.9E-08	1.0E-03
trans-1,3-Dichloropropene	NA	NA	NA	2.72E+06	NA	2.5E-08	8.9E-04
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	1.4E-07
Trichloroethene	NA	NA	NA	1.28E+06	NA	5.4E-08	NA
Total Risk and Hazard						**2E-07**	**0.006**

Table 9-1
Surface Soil (0-1 ft bgs) Risk Assessment Dataset
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent [a]	CASN	Frequency of Detection (FOD) [b]			Detects			Detection Limits			Maximum Location
		number of detects / number of samples			FOD %	Min - Max (mg/kg)			Min - Max (mg/kg)		
Volatile Organic Compounds (VOCs)											
Acetone	67-64-1	6	-	8	75	0.00759	-	0.0988	0.00595	- 0.00754	AT-SS-1 (5/12/2006)
2-Butanone (Methyl ethyl ketone)	78-93-3	1	-	8	12.5	0.00424	-	0.00424	0.00575	- 0.00802	AT-SS-1 (5/12/2006)
Carbon disulfide	75-15-0	5	-	8	62.5	0.00191	-	0.0211	0.00595	- 0.00708	AT-MW-2 (5/10/2006)
Chloroform	67-66-3	1	-	8	12.5	0.000439	-	0.000439	0.00115	- 0.00151	AT-MW-2 (5/10/2006)
1,1,2,2-Tetrachloroethane	79-34-5	0	-	8	0	–	-	–	0.00115	- 0.0016	–
Toluene	108-88-3	3	-	8	37.5	0.00073	-	0.0935	0.00118	- 0.0016	AT-MW-3(5/10/2006)
Xylenes	1330-20-7	1	-	8	12.5	0.00025	-	0.00025	0.00115	- 0.0016	AT-SS-2 (5/12/2006)
Semi Volatile Organic Compounds (SVOCs)											
Benzo[a]pyrene	50-32-8	0	-	8	0	–	-	–	0.0342	- 0.0416	–
Benzo[b]fluoranthene	205-99-2	4	-	8	50	0.018	-	0.0474	0.0373	- 0.0416	AT-MW-2 (5/10/2006)
Benzo[k]fluoranthene	207-08-9	2	-	8	25	0.0114	-	0.0153	0.0364	- 0.0416	AT-MW-4 (5/10/2006)
Chrysene	218-01-9	2	-	8	25	0.0191	-	0.0226	0.0342	- 0.0416	AT-MW-4 (5/10/2006)
Di-n-butyl phthalate	84-74-2	1	-	8	12.5	0.0432	-	0.0432	0.342	- 0.416	AT-MW-2 (5/10/2006)
Fluoranthene	206-44-0	4	-	8	50	0.0139	-	0.0504	0.0373	- 0.0416	AT-MW-4 (5/10/2006)
Phenanthrene	85-01-8	2	-	8	25	0.012	-	0.0265	0.0364	- 0.0416	AT-MW-4 (5/10/2006)
Pyrene	129-00-0	4	-	8	50	0.0137	-	0.0357	0.0373	- 0.0416	AT-MW-4 (5/10/2006)
Inorganics											
Arsenic	7440-38-2	6	-	8	75	0.64	-	1.1	0.542	- 0.572	AT-MW-2 (5/10/2006)
Barium	7440-39-3	8	-	8	100	3	-	19.7	–	- –	AT-MW-2 (5/10/2006)
Cadmium	7440-43-9	7	-	8	87.5	0.043	-	0.2	0.037	- 0.037	AT-SS-3 (5/12/2006)
Chromium	7440-47-3	8	-	8	100	1.5	-	3.8	–	- –	AT-MW-4 (5/10/2006)
Lead	7439-92-1	8	-	8	100	3	-	17.8	–	- –	AT-MW-4 (5/10/2006)
Mercury	7439-97-6	8	-	8	100	0.0062	-	0.043	–	- –	AT-MW-3
Selenium	7782-49-2	0	-	8	0	–	-	–	0.589	- 0.74	–

ft bgs Feet below ground surface.
– Not detected/ not analyzed/ not applicable.
CASN Chemical abstracts registry number.
mg/kg Milligrams per kilograms.

[a] Only constituents analyzed for in soil are presented.
For duplicate samples, the highest detected value or the lowest detection limit were used.
[b] Frequency of detection (FOD) = number of detects / total number of samples analyzed.

Table 9-2
Federal- and State-Listed and Candidate Species of Potential Occurrence
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
Hunter Army Airfield - Savannah, Georgia

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat	Habitat Present?
Amphibians							
Ambystoma cingulatum	Frosted Flatwoods Salamander	G2	S2	LT	T	Pine flatwoods; moist savannas; isolated cypress/gum ponds	no
Pseudacris brimleyi	Brimley's Chorus Frog	G5	S1			Moist forests; swamps; bottomlands	no
Rana capito	Gopher Frog	G3	S3		R	Sandhills; dry pine flatwoods; breed in isolated wetlands	no
Stereochilus marginatus	Many-lined Salamander	G5	S3			Sluggish, swampy streams and bayheads with substrate of leaf litter	no
Birds							
Ammodramus maritimus	Seaside Sparrow	G4	S3			Salt marshes	no
Charadrius melodus	Piping Plover	G3	S1	LT	T	Sandy beaches; tidal flats	no
Charadrius wilsonia	Wilson's Plover	G5	S2		T	Sandy beaches; tidal flats	no
Haematopus palliatus	American Oystercatcher	G5	S2		R	Sandy beaches; tidal flats; salt marshes	no
Haliaeetus leucocephalus	Bald Eagle	G5	S2		T	Edges of lakes & large rivers; seacoasts	no
Himantopus mexicanus	Black-necked Stilt	G5	S3			Shallow ponds; lagoons	no
Lanius ludovicianus migrans	Migrant Loggerhead Shrike	G4T3Q	S3			Open woods; field edges	no
Mycteria americana	Wood Stork	G4	S2	LE	E	Cypress/gum ponds; marshes; river swamps; bays	no
Nyctanassa violacea	Yellow-crowned Night-heron	G5	S3S4			River swamps; marshes; cypress/gum ponds	no
Nycticorax nycticorax	Black-crowned Night-heron	G5	S4			River swamps; marshes; cypress/gum ponds	no
Passerina ciris	Painted Bunting	G5	S3			Lower coastal plain in thickets, woodland borders, and brushy areas	no
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	E	Open pine woods; pine savannas	no
Rynchops niger	Black Skimmer	G5	S1		R	Tidal ponds; sandy beaches	no
Sterna antillarum	Least Tern	G4	S3		R	Sandy beaches; sandbars	no
Tyto alba	Barn owl	G5	S3S4			Georgia habitat information not available	no
Fish							
Acipenser brevirostrum	Shortnose Sturgeon	G3	S2	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates	no
Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	G3T3	S3			Georgia habitat information not available	no
Moxostoma robustum	Robust Redhorse	G1	S1		E	Medium to large rivers, shallow riffles to deep flowing water; moderately swift current	no
Umbra pygmaea	Eastern Mudminnow	G5	S2S3			Sluggish streams, ponds, and sloughs with mud bottoms and heavy vegetation	no
Invertebrates							
Toxolasma pullus	Savannah Lilliput	G2	S2		T	Large rivers to small creeks, oxbows, and sloughs	no
Mammals							
Eubalaena glacialis	Northern Atlantic Right Whale	G1	S1	LE	E	Open ocean	no
Lasiurus intermedius	Northern Yellow Bat	G4G5	S2S3			Wooded areas near open water or fields	no
Pseudorca crassidens	False Killer Whale	G4	SNRN			Open ocean	no
Trichechus manatus	Manatee	G2	S1S2	LE	E	Open ocean; estuaries; tidal rivers	no
Reptiles							
Caretta caretta	Loggerhead Sea Turtle	G3	S2	LT	E	Open ocean; sounds; coastal rivers; beaches	no
Chelonia mydas	Green Sea Turtle	G3	S1	LT	T	Open ocean; sounds; coastal rivers; beaches	no
Clemmys guttata	Spotted Turtle	G5	S3		U	Heavily vegetated swamps, marshes, bogs, and small ponds; nest and possibly hibernate in surrounding uplands	no
Crotalus adamanteus	Eastern Diamond-backed Rattlesnake	G4	S4			Early successional habitats on barrier islands and mainland; pine flatwoods; sandhills	no
Dermochelys coriacea	Leatherback Sea Turtle	G2	S1	LE	E	Open ocean; sounds; coastal beaches	no
Gopherus polyphemus	Gopher Tortoise	G3	S2		T	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields	no
Lepidochelys kempii	Kemp's or Atlantic Ridley	G1	S1	LE	E	Open ocean; sounds; coastal rivers; beaches	no
Malaclemys terrapin	Diamondback Terrapin	G4	S3		U	Entire coast, estuarine and marine edge; All saltmarsh, beaches	no

Notes:
Global rarity rank: 1 = very rare to 5 = very common globally.
State rarity rank: 1 = very rare to 5 = very common.
State protection status: E = Endangered, T = Threatened, R = Rare, U = Unusual.
U.S. protection status: LE = Listed Endangered, LT = Listed Threatened, Candidate.

Data from:
US Fish and Wildlife Service (USFWS) Endangered Species Program online database http://www.fws.gov/endangered/
Georgia Department of Natural Resources Protected Species List by County (May 2010), online at http://www.georgiawildlife.com/node/1370

Table 9-3
Screening Level-Constituents of Potential Ecological Concern in Surface Soil
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent	Frequency of Detection	Maximum Concentration (mg/kg)	Ecological Screening Value (ESVs) [a] (mg/kg)		HQ [b] (unitless)	Screening Level Constituent of Potential Ecological Concern? [c]	
			Value	*Source*		(YES/no)	Rationale
Volatile Organic Compounds (VOCs)							
Acetone	6 - 8 75%	0.0988	2.5	R4	0.04	no	HQ < 1
2-Butanone (Methyl ethyl ketone)	1 - 8 13%	0.00424	89.6	R4	0.00005	no	HQ < 1
Carbon disulfide	5 - 8 63%	0.0211	0.0941	R4	0.2	no	HQ < 1
Chloroform	1 - 8 13%	0.000439	0.001	R4	0.4	no	HQ < 1
Toluene	3 - 8 38%	0.0935	0.05	R4	2	**YES**	**HQ > 1**
Xylenes	1 - 8 13%	0.00025	0.05	R4	0.005	no	HQ < 1
Semi Volatile Organic Compounds (SVOCs)							
Benzo[b]fluoranthene	4 - 8 50%	0.0474	59.8	R4	0.0008	no	HQ < 1
Benzo[k]fluoranthene	2 - 8 25%	0.0153	148	R4	0.0001	no	HQ < 1
Chrysene	2 - 8 25%	0.0226	4.73	R4	0.005	no	HQ < 1
Di-n-butyl phthalate	1 - 8 13%	0.0432	200	R4	0.0002	no	HQ < 1
Fluoranthene	4 - 8 50%	0.0504	0.1	R4	0.5	no	HQ < 1
Phenanthrene	2 - 8 25%	0.0265	0.1	R4	0.3	no	HQ < 1
Pyrene	4 - 8 50%	0.0357	0.1	R4	0.4	no	HQ < 1
Inorganics							
Arsenic	6 - 8 75%	1.1	10	R4	0.1	no	HQ < 1
Barium	8 - 8 100%	19.7	165	R4	0.1	no	HQ < 1
Cadmium	7 - 8 88%	0.2	1.6	R4	0.1	no	HQ < 1
Chromium	8 - 8 100%	3.8	0.4	R4	10	**YES**	**HQ > 1**
Lead	8 - 8 100%	17.8	50	R4	0.4	no	HQ < 1
Mercury	8 - 8 100%	0.043	0.1	R4	0.4	no	HQ < 1

Notes:

[a] Ecological soil screening levels from:
USEPA Region 4 Ecological Screening Values (USEPA 2001b; R4).

[b] The hazard quotient (HQ) is the ratio of the maximum constituent concentration to the screening level. HQs are rounded to one significant figure.

[c] Constituents with a hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening level (NSL) were considered constituents of potential ecological concern (COPECs) for screening level assessment.

Table 9-4
Baseline Level-Constituents of Potential Ecological Concern in Surface Soil
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent	Frequency of Detection	Maximum Concentration (mg/kg)	Background Concentration [a] (mg/kg)	Alternative Ecological Screening Value (ASVs) [b] (mg/kg)		HQ [b] (unitless)	Constituent of Potential Ecological Concern? [c]	
				Value	*Source*		(YES/no)	Rationale
Toluene	3 - 8 38%	0.0935	NA	5.45	R5	0.02	no	HQ < 1
Chromium	8 - 8 100%	3.8	7.7	26	EcoSSL	0.1	no	max ≤ bkgd

Notes:

[a] Background concentration from:

[b] Ecological soil screening levels from:
USEPA Region 5, RCRA Ecological Screening Levels, August 22, 2003 (R5)
Ecological soil screening Levels (USEPA 2008) EcoSSL
The hazard quotient (HQ) is the ratio of the maximum constituent concentration to the screening level. HQs are rounded to one significant figure.

[c] Constituents with a hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening level (NSL) were considered constituents of potential ecological concern (COPECs) for screening level assessment.

Table 9-5

Uncertainties in the Ecological Risk Assessment

Ecological Risk Assessment

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Assumptions	Description And Discussion Related To Uncertainties in ERA	Level of Uncertainty
Analytical Sampling and Data Analysis		
Limited number of samples	Frequently, there are only a limited number of samples used in ERAs, and very often they are collected in a biased manner (i.e., targeting "hot spots"). This type of sampling often lacks statistical power and does not likely represent the concentrations in the environment in which wildlife exposure occurs.	Overestimate of exposure and risk
Use of maximum concentrations	Maximum concentrations are used to represent the upper estimate exposures. This practice compensates for uncertainty contributed by limited numbers of samples, but overestimates exposure and risk.	Overestimate of exposure and risk
Detection limits	Detection limits may exceed ESVs ~~(e.g., PAHs)~~ or thresholds for adverse impacts are well below the analytical methods used in ERA (e.g., compounds that are known or suspected to cause endocrine effects).	May underestimate risk or effect on risk estimate unknown
Degradation of chemicals not considered	ERAs are almost exclusively based on concentrations of target compounds, and little if any attention is given to degradation compounds that could be more toxic than the original chemical. Conversely, chemical concentrations may decrease over time due to natural physical processes.	Effect on risk estimate unknown
Toxicology and ESVs		
Toxicity and exposure data for a limited number of species	Uncertainties exist in many aspects of the toxicology relied upon for conducting ERAs (Newman 1998; Lovett Doust et al. 1993). Toxicity and wildlife exposure data are only available for a limited number of species (most of them laboratory test species) under a strictly defined set of test conditions that deviate from natural conditions (Sample et al. 1996; Suter 1996; Sample et al. 1997).	Effect on risk estimate unknown
Laboratory testing	In current practice, more than 95 percent of the resources in toxicology are focused toward the study of single chemicals (Cassee et al. 1998), while wildlife exposures rarely occur on a chemical-specific basis. Simplistic extrapolations from laboratory species to wildlife species and testing conditions to field conditions are not likely accurate, and are rarely, if ever, validated against natural conditions (Power 1996; Tannenbaum 2003).	Effect on risk estimate unknown
Adaptation and tolerance	There is little consistency and no quantitative methodology for the consideration of the diminished bioavailability (and, thereby, diminished toxicity) even though this process is well documented (e.g., Alexander and Alexander 1999; Alexander 2000). Similarly, tolerance and adaptation are not considered directly (Millward and Klerks 2002; Grant 2002). Furthermore, the white rat often used in toxicological testing is bred to minimize differences between lab animals, thereby diminishing the genetic variability that gives wildlife some capability for adaptation and tolerance (Tannenbaum 2003).	Overestimate of risk
Predator-prey interactions	There are relatively few studies that actually evaluate the effects of toxicity on predator-prey interactions, or on competition for scarce resources (Atchison et al. 1996), the very conditions within which all wildlife exists (Kapustka and Landis 1998).	Effect on risk estimate unknown

Table 9-5

Uncertainties in the Ecological Risk Assessment

Ecological Risk Assessment

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Assumptions	Description And Discussion Related To Uncertainties in ERA	Level of Uncertainty
Hazard Quotients		
Elevated HQs for background concentrations	HQs may exceed a value of 1 for background concentrations of naturally occurring metals (Tannenbaum 2003). This is due to many of the toxicology and ESV uncertainties already discussed.	Overestimate of risk
Interpretation of HQs	An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2001c). However, there is no clear guidance for interpreting the HQs that exceed a value of 1, except that this point of departure indicates that adverse effects of some kind may have occurred or may occur in the future.	Effect on risk estimate unknown
HQs for individual used to evaluate risks to populations	HQs are based on the types of impacts that could occur to individuals (i.e., those individuals exposed to maximum concentrations) and they completely fail to address ecological exposure and risk at spatial scale of populations (Tannenbaum 2003; Durda and Preziosi 1999).	Overestimate of risk to wildlife populations
HQs with unrealistic magnitudes	HQs are seen at magnitudes that suggest that every animal should die upon acute exposure (i.e., in the hundreds or thousands) (Tannenbaum et al. 2003). Often, physical conditions at a site demonstrate that this is not the case.	Overestimate of risk
No evaluation of dermal or inhalation pathways	The dermal and inhalation exposure pathways are generally considered “insignificant” due to protective fur and feathers. Under certain conditions, these exposure pathways may occur, but adequate information is rarely available by which to evaluate them.	Potentially an underestimate of risk

BERA	Baseline Ecological Risk Assessment.
COPC	Constituent of potential concern.
ERA	Ecological risk assessment.
ESV	Ecological screening value.
HQ	Hazard quotient.
PAH	Polynuclear aromatic hydrocarbon.
RTV	Reference toxicity value.
SLERA	Screening level ecological risk assessment.



SOURCE: http://maps.google.com/maps, February 2009.



HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Site Location Map

ARCADIS

FIGURE

3-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F3-1 H17_CSR_REG.mxd - 4/4/2011 @ 3:36:52 PM

BLDG. 1290

Former Drycleaner Location

Former Weapon Cleaning Facility Location

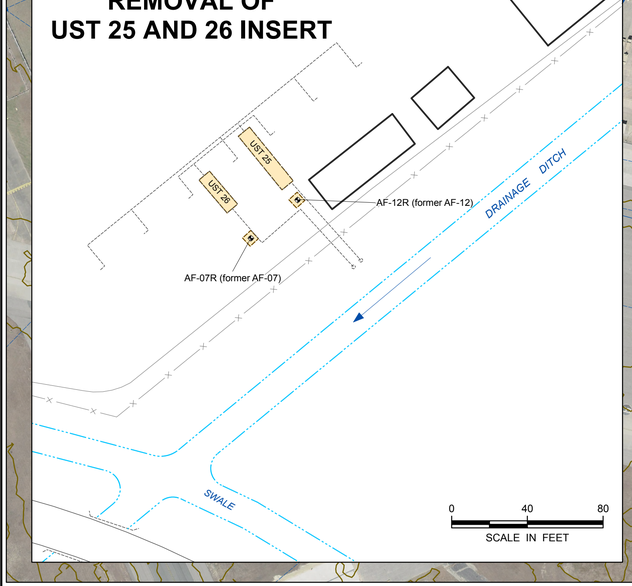
Former SAC Special Weapons Facility Location

PURGE FACILITY

FORMER UST 25 AND 26 LOCATION

SEE FORMER UST 25 AND 26 INSERT

REMOVAL OF UST 25 AND 26 INSERT



LEGEND

- Monitor Well (shallow)
- Excavation Area (2007)
- Topographic Contour (ft amsl)
- Storm Water Drainage Canal
- Storm Water Drainage System
- Surface Water Flow Direction
- Catch Basin

REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Site Layout Map

ARCADIS

FIGURE **4-1**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F4-1 H17_CSR_SITE Dsize.mxd - 4/4/2011 @ 5:17:24 PM



LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Monitor Well (destroyed)
- Monitor Well (deep)
- Temporary Piezometer

NOTES:
1) MW- wells are associated with the Building 1290 investigation.
2) AF- wells are associated with the UST 25 and 26 CAP Part B investigation.
3) AT-MW- wells are associated with the Purge Facility investigation.
4) AF-07 and AF-12 were destoyed as part of the UST removal; AF-07R and AF-12 have been installed to replace the afore mentioned wells.
5) In general, shallow wells intersect the water table and are <20 feet deep. Deep wells are >20 feet deep.

REFERENCE: SAGIS (2008).

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Site Map with Monitor-Well Locations

ARCADIS

FIGURE 5-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAF8.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F5-1 H17_CSR_MWs Dsize.mxd - 4/4/2011 @ 5:21:14 PM



LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Monitor Well (deep)
- Vertical Profile Boring
- Membrane Interface Probe
- Soil Boring

REFERENCE: SAGIS (2008).

0 150 300 450 600

SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Site Map with Soil Sample Locations

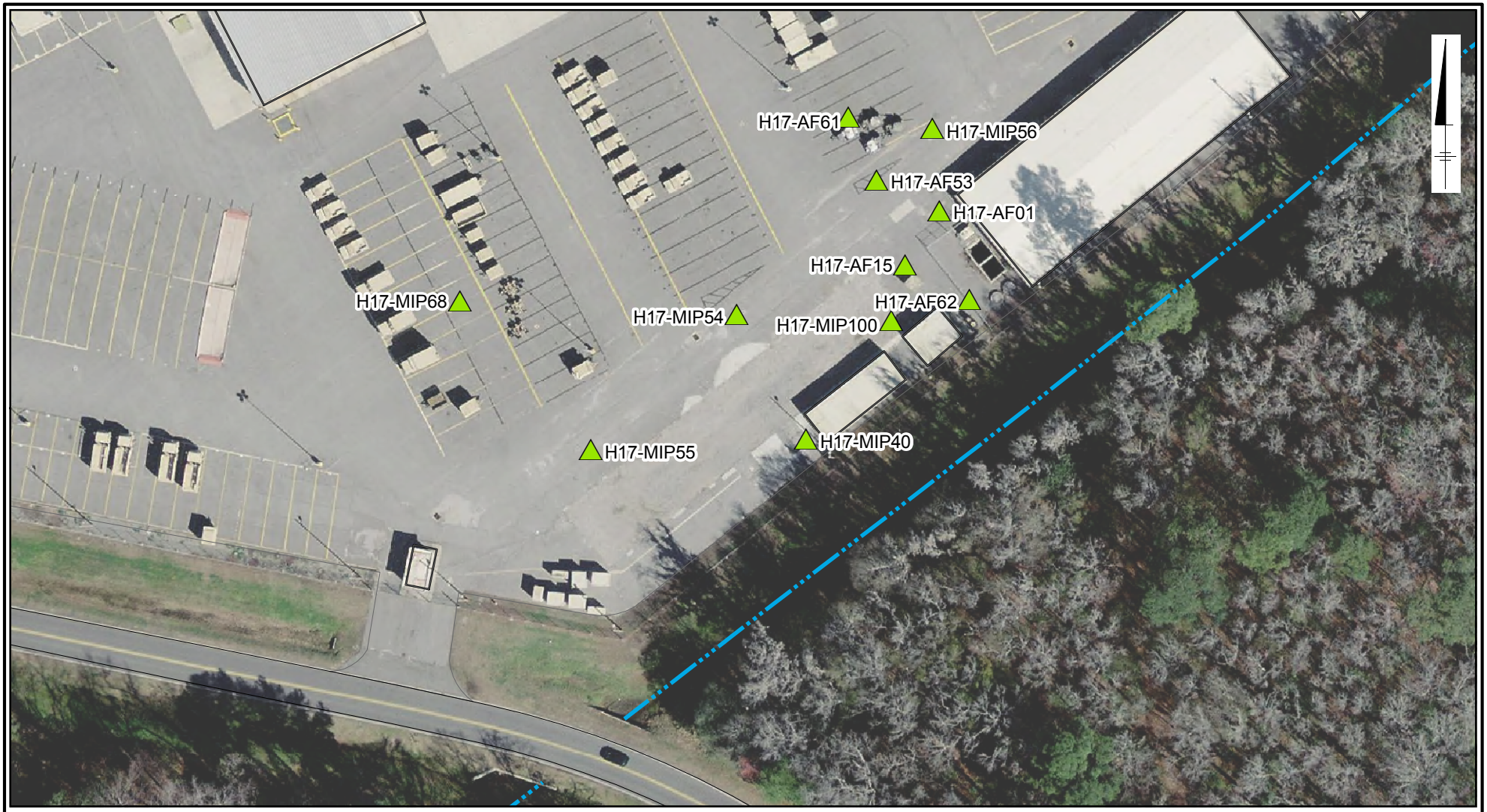
ARCADIS

FIGURE

5-2

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F5-2 H17_CSR_SBs Dsize.mxd - 4/4/2011 @ 3:42:52 PM

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F6-1 H17_CSR_MIPs.mxd - 4/4/2011 @ 3:39:40 PM



REFERENCE: SAGIS (2008).

LEGEND

- Storm Water Drainage Canal
- MIP Boring/Soil Boring (December 2009)

0 80 160
SCALE IN FEET

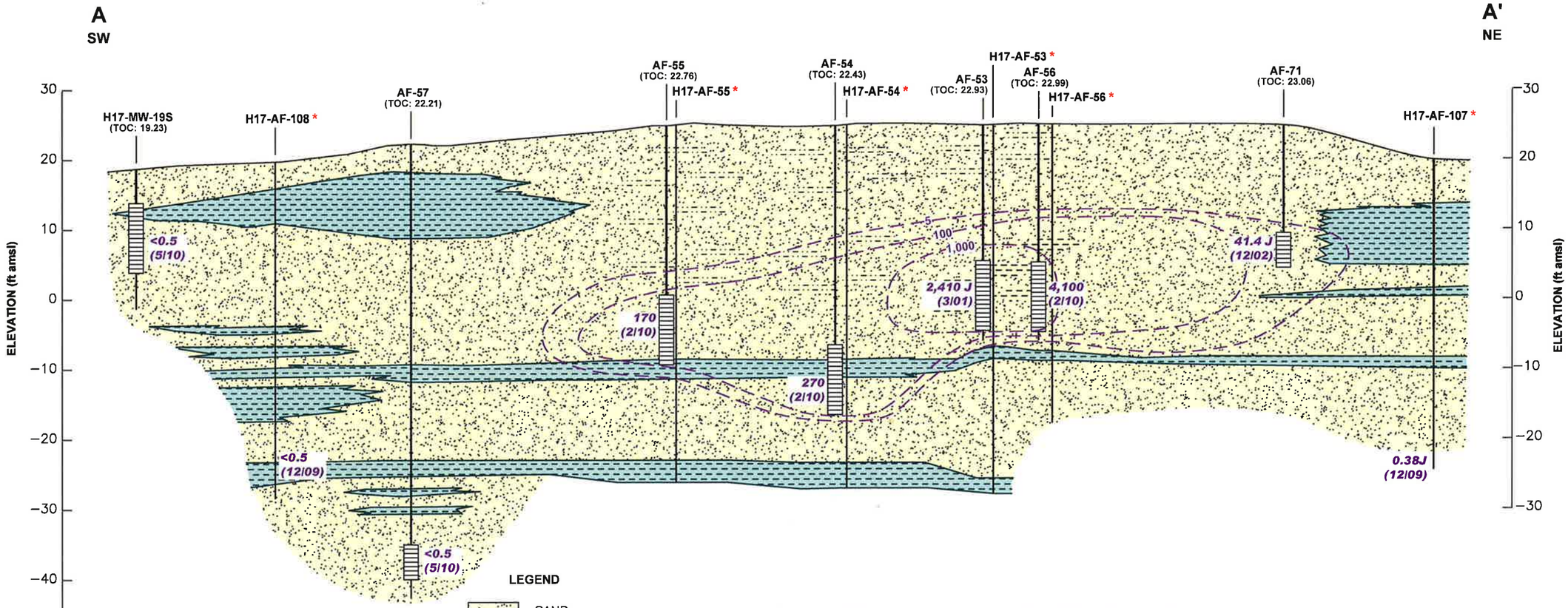
HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT

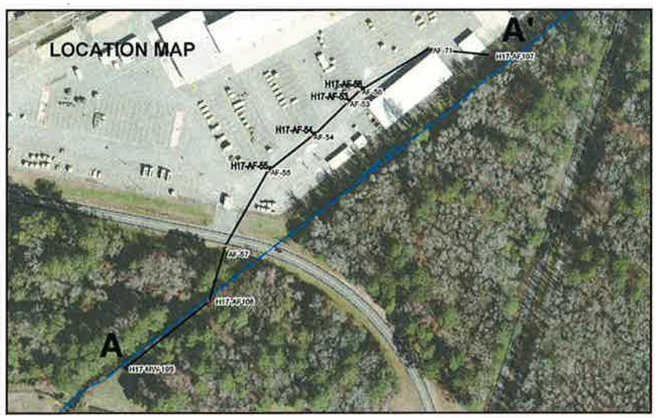
Membrane Interface Probe Locations (December 2009)

ARCADIS

FIGURE
6-1

CITY: (KNOXVILLE) DIV/GROUP: (ENV) DB:(R.HOOTMAN/A.SAUL) LD:(B.ALTOM) PIC:(M. FENNER) PM:(C. BERTZ) TM:(S.BOSTIAN/D.WILLIS)
G:\GIS\HAAF\MapDocs\H17\2010 CSR\F7-1 H17_CSR_XSECAA TCE.dwg LAYOUT: AA SAVED: 3/28/2011 6:27 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: —
XREFS: IMAGES: PROJECT: GP:\BHAFS\H17C.DBCSR
H17XSECLOC.jpg





LEGEND

- SAND
- SILT
- CLAY
- MONITOR WELL
- SCREENED INTERVAL
- 270 — MOST RECENT TCE CONCENTRATION (µg/L)
- (2/10) — MONTH/YEAR SAMPLE COLLECTED
- –5– — TRICHLOROETHENE ISOPLETH
- * — TEMPORARY MEMBRANE INTERFACE PROBE LOCATION WHERE SOIL TYPES ARE INFERRED FROM ELECTRICAL CONDUCTANCE DATA

0 80 160
HORIZONTAL SCALE IN FEET

0 16 32
VERTICAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT

**Geologic Cross-Section A-A'
Along Topographic Strike
with Trichloroethene Isopleths**

ARCADIS

FIGURE
7-1



LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Temporary Piezometer
- Groundwater Contour (ft amsl)
- (inferred where dashed)
- Direction of Groundwater Flow
- (30.90) Groundwater Elevation (ft amsl) Measured June 9, 2010
- (NM) Not Measured
- (N/A) Not Surveyed

REFERENCE: SAGIS (2008).

0 160 320 480 640

SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Shallow Potentiometric Surface Map (June 2010)

ARCADIS

FIGURE

7-2

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-2 H17_CSR 201006 POT S Dsize.mxd - 4/4/2011 @ 3:43:35 PM



LEGEND

- Storm Water Drainage Canal
- Monitor Well (deep)
- Groundwater Contour (ft amsl)
- (inferred where dashed)
- Direction of Groundwater Flow
- (30.73) Groundwater Elevation (ft amsl) Measured June 9, 2010
- (NM) Not Measured
- (N/A) Not Surveyed

REFERENCE: SAGIS (2008).

0 160 320 480 640

SCALE IN FEET

HUNTER army AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Deep Potentiometric Surface Map (June 2010)

ARCADIS

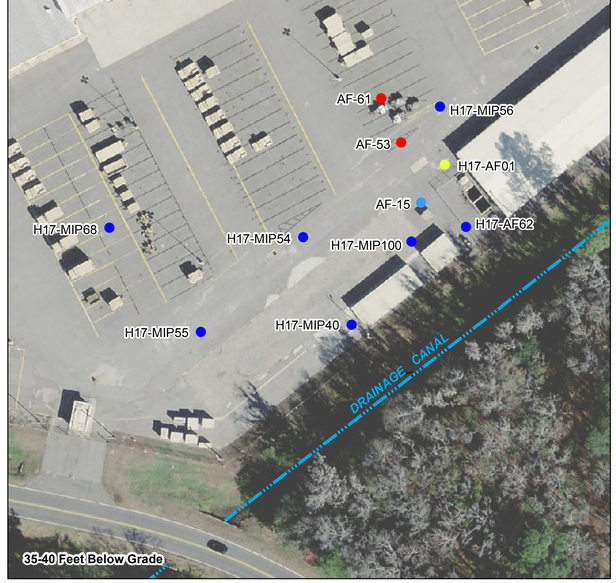
FIGURE **7-3**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-3 H17_CSR 201006 POT D Dsize.mxd - 4/4/2011 @ 3:45:09 PM

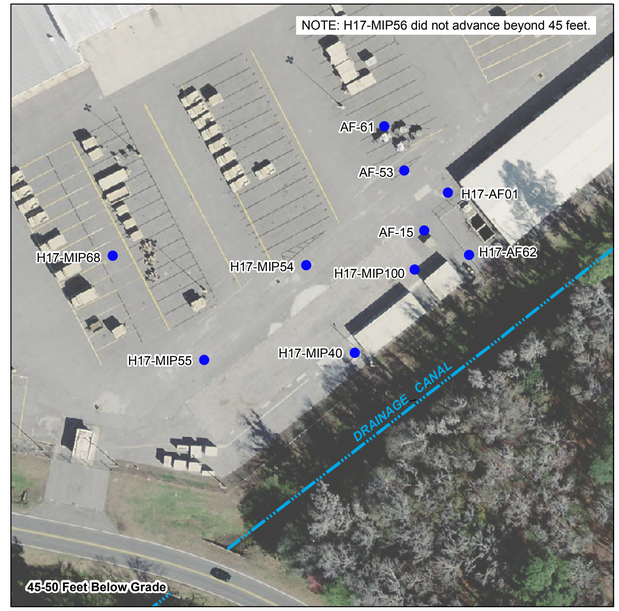












REFERENCE: SAGIS (2008).

LEGEND

MAX ECD Response (uV)

- 158730.200000 - 750000.000000
- 750000.000001 - 1100000.000000
- 1100000.000001 - 1500000.000000
- 1500000.000001 - 2500000.000000
- 2500000.000001 - 5000000.000000
- 5000000.000001 - 12000000.000000

0 60 120 180 240

SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Membrane Interface Probe ECD Response

ARCADIS

FIGURE **7-4**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17/C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-4 H17_CSR_MIP ECD Dsize.mxd - 4/4/2011 @ 3:28:06 PM

H17-FD2	
(34-35)	ND
(44-45)	ND

H17-FD2

H17-FD3	
(34-35)	ND
(44-45)	ND

H17-FD3

H17-FD1	
(34-35)	ND
(44-45)	ND

H17-FD1

H17-PF4	
(34-35)	ND
(44-45)	ND

H17-PF4

H17-PF1	
(6-7)	ND
(34-35)	ND
(44-45)	15

H17-PF1

H17-PF3	
(2-3)	ND
(6-7)	ND

H17-PF3

H17-PF2	
(34-35)	9.2
(44-45)	95

H17-PF2

H17-AF104	
(24-25)	ND
(34-35)	ND
(44-45)	ND

H17-AF105	
(34-35)	ND
(44-45)	ND

H17-AF105

H17-AF104

H17-AF103	
(34-35)	ND
(44-45)	ND

H17-AF103

H17-AF061	MIP
(22-23)	530	1.4
(36-37)	750	6.8
(41-42)	2.1	3.3
(48-49)	ND	BG

H17-AF53	MIP
(25-26)	36	BG
(35-36)	8.8	11
(42-43)	5.3	0.75

H17-MIP56
ECD Max
1.06

H17-AF107	
(34-35)	1.5 J
(44-45)	ND

H17-AF107

H17-AF01	MIP
(21-22)	350	0.9
(31-32)	470	1.5
(37-38)	ND	2.4

H17-AF62	MIP
(21-22)	ND	1.1
(26-27)	200	2.3
(36-37)	ND	0.4

H17-AF101	
(24-25)	940
(34-35)	810 J

H17-AF015	MIP
(21-22)	35	0.3
(29-30)	77	4.6
(37-38)	ND	0.7
(44-45)	ND	BG

H17-AF102	
(34-35)	ND
(44-45)	ND

H17-AF102

H17-MIP68
ECD Max
0.57

H17-MIP55
ECD Max
0.84

H17-MIP54
ECD Max
0.82

H17-MIP40
ECD Max
0.87

H17-MIP100
ECD Max
0.57

H17-AF108	
(34-35)	ND
(44-45)	ND

H17-AF108

H17-AF61
H17-AF53
H17-AF15
H17-AF62
H17-AF01
H17-AF101
H17-MIP56
H17-MIP68
H17-MIP54
H17-MIP100
H17-MIP40
H17-MIP55

LEGEND

- Storm Water Drainage Canal
- MIP Boring (December 2009)
- MIP Boring/Soil Boring (December 2009)

NOTES:
1) FD borings are associated with the Former Drycleaner investigation.
2) AF borings are associated with the UST 25/26 investigation.
3) PF borings are associated with the Purge Facility investigation.
4) MIP column referenced the maximum electron capture detector (ECD) reading for the sample interval.
5) BG = Background
6) All TCE concentrations are reported in micrograms per kilogram (µg/kg).

REFERENCE: SAGIS (2008).

0 120 240 360 480
SCALE IN FEET

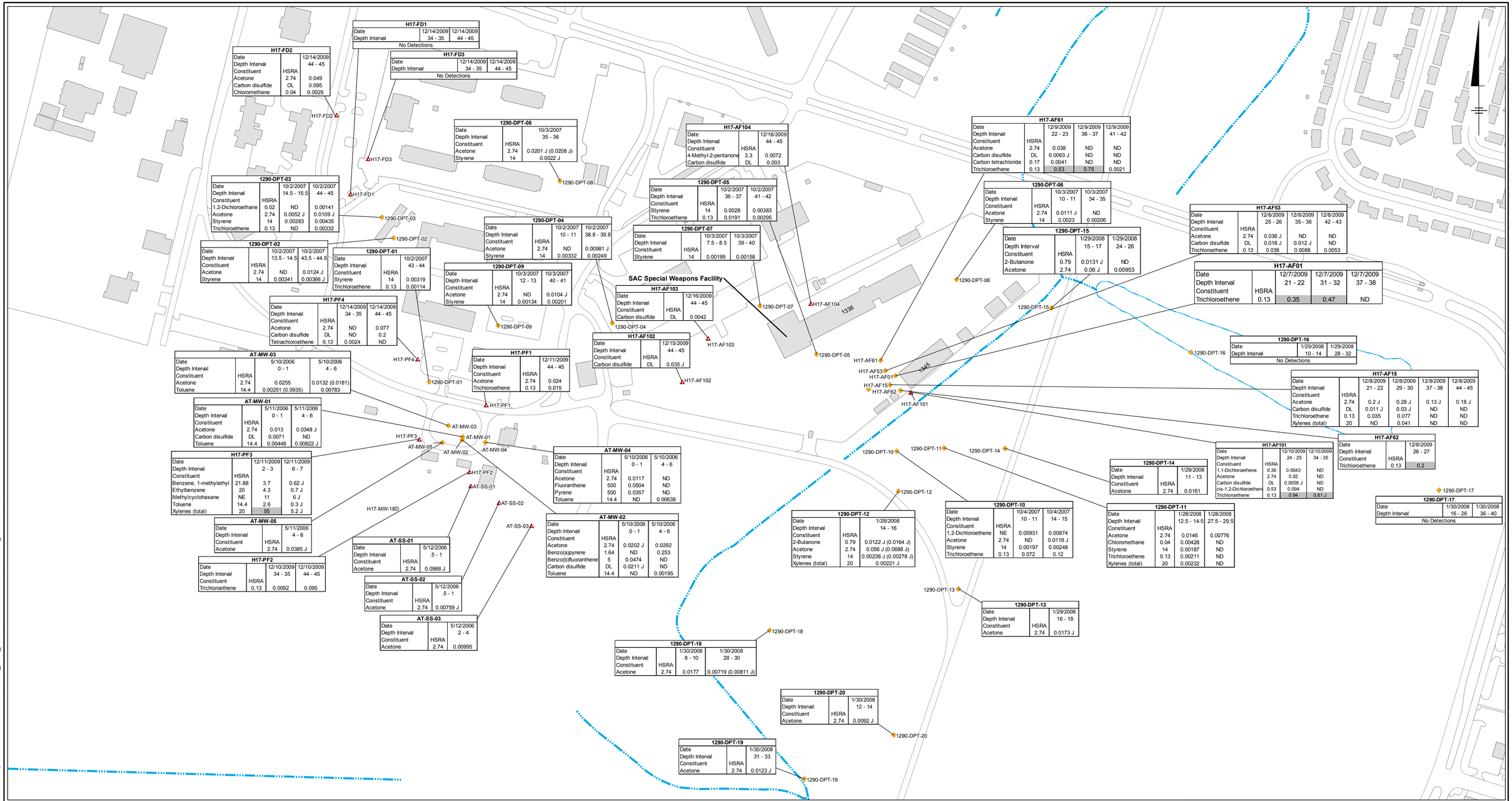
HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT

TCE Concentrations in Soil (December 2009)

ARCADIS

FIGURE
7-5

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-5 H17_CSR 2009\2 SOIL TCE Dsize.mxd - 4/4/2011 @ 3:09:47 PM



REFERENCE: SAGIS (2008).

LEGEND

- Storm Water Drainage Canal
- Vertical Profile Boring
- Soil Boring

NOTES:
1) Samples associated with the UST 25 and 26 CAP Part B investigation (AF-01 - AF-72) are shown on Figure 4-8b.
2) All concentrations are reported in milligrams per kilogram (mg/kg).
3) Soil data compared against the Hazardous Site Reponse Act (HSRA) Notification concentrations.
4) Concentrations shown are those detected above the practical quantitation limit (PQL).
5) Gray results indicate a Type 1 RRS exceedance.
6) Sample intervals are feet below ground surface.
7) J values are estimated.
8) NE - Not established.
9) ND - Not detected above PQL.
10) DL - Detection limit.
11) (###) - Duplicate Data

0 150 300 450 600
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Concentrations of VOCs Detected in Soil (2006-2009)

ARCADIS

FIGURE 7-6

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-6 H17_CSR_SOIL VOCs Dsize.mxd - 4/4/2011 @ 3:52:57 PM

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-7 H17_CSR_GW VOCs Dsize.mxd - 4/4/2011 @ 3:46:40 PM

1290-MW-6S

1290-MW-6S

Date			7/18/2007
Constituent	MCL	RRS	
Acetone		4,000	14.9

1290-MW-5D

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-5S

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
Acetone		4,000	ND	ND

1290-MW-5D
1290-MW-5S

1290-MW-12D

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-12S

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-12D
1290-MW-12S

1290-MW-1D

Date			7/17/2007
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-1S

Date			7/17/2007
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-1D
1290-MW-1S

1290-MW-2D

Date			7/17/2007	2/11/2010
Constituent	MCL	RRS		
Acetone			ND	17

1290-MW-2S

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-2S
1290-MW-2D

1290-MW-4D

Date			7/17/2007
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-4S

Date			7/17/2007
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-4D
1290-MW-4S

1290-MW-3S

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
Acetone		4,000	ND	17

1290-MW-3D

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
Acetone			ND	18

1290-MW-3D
1290-MW-3S

1290-MW-7D

Date			7/17/2007	2/11/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-7D
1290-MW-7S

1290-MW-7S

Date			7/19/2007	2/11/2010
Constituent	MCL	RRS		
Acetone		4,000	ND	17

1290-MW-13D

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-13S

Date			7/19/2007	2/16/2010
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-13D
1290-MW-13S

H17-FD2

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,1-Dichloroethene		4,000	7.1
1,1-Dichloroethene	7	7	2.4
1,2-Dichloropropane	5	5	0.99
Carbon disulfide		4,000	0.72
Ethylbenzene	700	700	1.9
Xylenes (total)	10,000	10,000	3.4

H17-FD2

H17-FD3

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichlorobenzene	600	600	2.2
Carbon disulfide		4,000	1.3
cis-1,2-Dichloroethene	70	NE	6.2
Trichloroethene	5	5	1.1

H17-FD3

H17-FD1

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichlorobenzene	600	600	0.73
Carbon disulfide		4,000	0.61
cis-1,2-Dichloroethene	70	NE	0.87

H17-FD1

1290-DPT-03

Date			10/2/2007
Depth Interval			44 - 46
Constituent	MCL	RRS	
1,2-Dichloroethene	5	5	1.1
Trichloroethene	5	5	2.5

1290-DPT-03

1290-MW-8S

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	**7.77**	5.1
Trichloroethene	5	5	1.08	ND

1290-MW-8D
1290-MW-8S

1290-MW-8D

Date			7/18/2007	2/11/2010
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	6.01	18
Acetone		4,000	ND	ND

1290-MW-9S

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	4.29	1.8
Acetone		4,000	5.52	ND

1290-MW-9D

Date			7/18/2007	2/16/2010
Constituent	MCL	RRS		
Acetone		4,000	12	18

1290-MW-9D
1290-MW-9S

H17-MW-17S

Date			5/25/2010
Constituent	MCL	RRS	
Acetone		4,000	28
Chloroethane		NE	0.69

H17-MW-17D

Date			5/25/2010
Constituent	MCL	RRS	
Carbon disulfide		4,000	1.9

H17-MW-17D
H17-MW-17S

MW-15S

Date			7/19/2007	2/19/2010
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	**9.35**	ND

MW-15S

MW-16S

Date			7/19/2007	2/17/2010
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	**54.7**	ND
Vinyl chloride	2	2	**27.3**	1.3

MW-16S

H17-AF103

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
cis-1,3-Dichloropropene		NE	2
trans-1,3-Dichloropropene		NE	2.6

H17-AF103

B159-1

Date			12/4/2002	12/4/2002	12/4/2002
Depth Interval			20	40	45
Constituent	MCL	RRS			
cis-1,2-Dichloroethene	70	NE	ND	14.7	ND
Trichloroethene	5	5	2.44	**116**	**12.7**

B159-1

H17-PF4

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
Carbon disulfide		4,000	0.53
Trichloroethene	5	5	1.7

H17-PF4

H17-PF1

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
Trichloroethene	5	5	2.2

H17-PF1

1290-DPT-01

Date			10/2/2007
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichloroethene		NE	3.65
Trichloroethene	5	5	**19.4**

1290-DPT-01

AT-MW-01

Date			7/23/2006	2/17/2010
Constituent	MCL	RRS		
1,2-Dichloroethene		NE	1.13	ND
cis-1,2-Dichloroethene	70	NE	ND	0.63
Trichloroethene	5	5	**34.8**	**14**

AT-MW-01

B159-5

Date			12/3/2002
Depth Interval			20
Constituent	MCL	RRS	
Naphthalene		20	6.17

B159-5

AT-MW-03

Date			7/24/2006	2/17/2010
Constituent	MCL	RRS		
Acetone		4,000	ND	ND (18)

AT-MW-03
H17-PF3
AT-MW-05
AT-MW-02
AT-MW-01
AT-MW-04

AT-MW-04

Date			7/24/2006	2/17/2010
Constituent	MCL	RRS		
Acetone		4,000	16.9 (13)	ND
Benzene	5	5	0.58 (1.11)	ND
Ethylbenzene	700	700	0.89 (3.1)	ND
Toluene	1,000	1,000	0.73 (2.6)	ND
Xylenes (total)	10,000	10,000	4.4 (14.4)	ND

B159-3

Date			12/4/2002	12/4/2002
Depth Interval			10	15
Constituent	MCL	RRS		
CFC-12		1,000	10.5	5.32

B159-3

AT-MW-02

Date			7/23/2006	2/17/2010
Constituent	MCL	RRS		
Xylenes (total)	10,000	10,000	1.07	ND

H17-PF2

Date			12/17/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
cis-1,2-Dichloroethene	70	NE	7.5

H17-PF2

H17-MW-18D

Date			5/25/2010
Constituent	MCL	RRS	
Benzene	5	5	**5.2**
cis-1,2-Dichloroethene	70	NE	1.1
tert-Butyl methyl ether		NE	3.6
Trichloroethene	5	5	2.6

H17-MW-18D

AT-MW-05

Date			7/24/2006	2/17/2010
Constituent	MCL	RRS		
2-Methylnaphthalene		NE	3.46	ND
Benzene, 1-methylethyl-		NE	ND	0.56
Ethylbenzene	700	700	1.25	ND
Naphthalene		20	2.15	ND
Toluene	1,000	1,000	1.28	ND
Xylenes (total)	10,000	10,000	5.32	ND

1290-DPT-05

Date			10/2/2007	10/2/2007
Depth Interval			36 - 38	46 - 48
Constituent	MCL	RRS		
1,2-Dichloroethene		NE	2.99	3.42
Benzene	5	5	1.05	ND
Trichloroethene	5	5	**39.7**	**74.8**

1290-DPT-05

H17-MW-19S

Date		5/25/2010
All Constituents		ND (ND)

H17-MW-19S

H17-MW-21S

Date		5/25/2010
All Constituents		ND (ND)

H17-MW-21D

Date		5/25/2010
All Constituents		ND (ND)

H17-MW-21S
H17-MW-21D

H17-MW-20D

Date			5/25/2010
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	0.94
cis-1,2-Dichloroethene	70	NE	59
trans-1,2-Dichloroethene	100	100	0.7
Trichloroethene	5	5	**280**

H17-MW-20D

1290-DPT-11

Date			11/29/2008
Depth Interval			10 - 14
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	2.59
1,2-Dichloroethene		NE	63.8
Trichloroethene	5	5	**372 J**

1290-DPT-11

1290-DPT-10

Date			10/4/2007	10/4/2007	10/4/2007
Depth Interval			10 - 12	14 - 16	26 - 28
Constituent	MCL	RRS			
1,1-Dichloroethene		4,000	ND	3.35 (3.42)	ND
1,1-Dichloroethene	7	7	1.66	6.74 (6.95)	ND
1,2-Dichloroethene		NE	41.3	104 (115)	22.2
Acetone		4,000	ND	ND	7.98 J
Trichloroethene	5	5	**172**	**403 J (894)**	**99.4**

1290-DPT-10

H17-MW-22S

Date		5/25/2010
All Constituents		ND (ND)

H17-MW-22D

Date		5/25/2010
All Constituents		ND (ND)

H17-MW-22D
H17-MW-22S

1290-DPT-03
1290-DPT-01
1290-DPT-05
1290-DPT-10
1290-DPT-11
H17-PF4
H17-PF1
H17-PF2
H17-FD2
H17-FD3
H17-FD1
H17-AF103
H17-MW-19S
H17-MW-21S
H17-MW-21D
H17-MW-20D
H17-MW-22S
H17-MW-22D
H17-MW-18D
H17-MW-17S
H17-MW-17D
MW-15S
MW-16S
B159-1
B159-5
B159-3
AT-MW-01
AT-MW-02
AT-MW-03
AT-MW-04
AT-MW-05
1290-MW-1D
1290-MW-1S
1290-MW-2D
1290-MW-2S
1290-MW-3D
1290-MW-3S
1290-MW-4D
1290-MW-4S
1290-MW-5D
1290-MW-5S
1290-MW-6S
1290-MW-7D
1290-MW-7S
1290-MW-8D
1290-MW-8S
1290-MW-9D
1290-MW-9S
1290-MW-10
1290-MW-11
1290-MW-12D
1290-MW-12S
1290-MW-13D
1290-MW-13S
AF-42
1345
1336
B159-1
B159-3
SEE FIGURE 7-8

LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Monitor Well (destroyed)
- Monitor Well (deep)
- Vertical Profile Boring
- Soil Boring

NOTES:
1) All concentrations are reported in micrograms per liter (µg/L).
2) Italic results indicate a maximum contaminant level (MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009)) exceedance.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) - - Not Sampled.
9) (####) - Duplicate Data.

REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

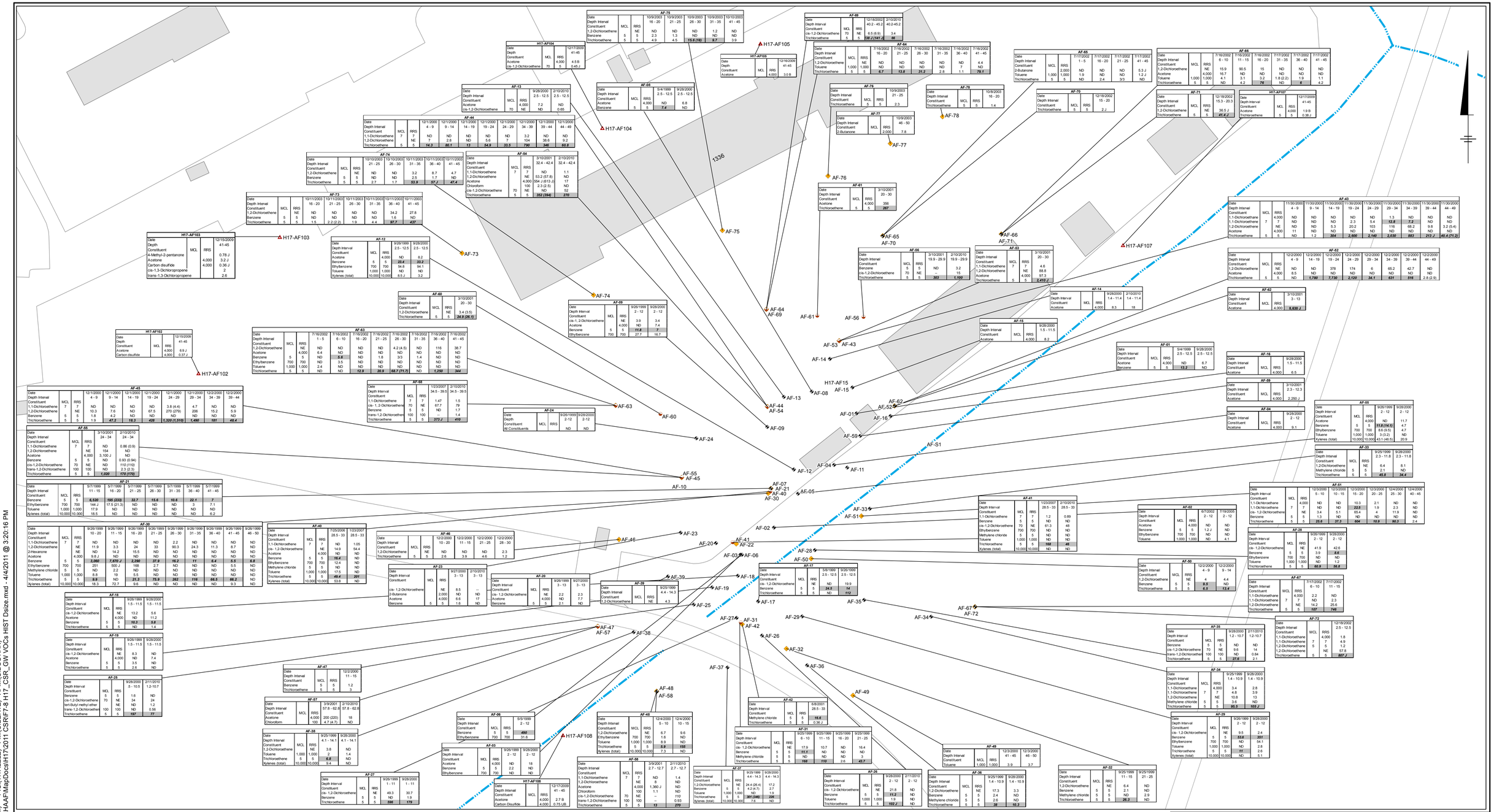
HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Concentrations of VOCs Detected in Sitewide Groundwater

ARCADIS

FIGURE 7-7



LEGEND

- Storm Water Drainage Canal
- Soil Boring
- Vertical Profile Boring
- Monitor Well (shallow)
- Monitor Well (deep)
- Temporary Piezometer

NOTES:
1) All concentrations are reported in micrograms per liter (µg/L).
2) Italic results indicate a maximum contaminant level (MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009)) exceedance.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) - - Not Sampled.
9) (#####) - Duplicate Data.
10) Figure only shows two most recent sampling events.

REFERENCE: SAGIS (2008).

0 50 100 150 200
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater

ARCADIS

FIGURE 7-8

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT:GP08HAFS.H17C.DPCSR PATH:G:\GIS\HAAF\MapDocs\H17\2011 CSRR\F7-8 H17_CSR_GW VOCs HIST Dsize.mxd - 4/4/2011 @ 3:20:16 PM



LEGEND

- Storm Water Drainage Canal
- Estimated Extent of TCE Impacts

TCE Concentrations in Groundwater (shallow)

- ND - 4.0 µg/L
- 4.1 - 50 µg/L
- 50.1 - 100 µg/L
- 100.1 - 500 µg/L
- 500. - 1,100 µg/L

TCE Concentrations in Groundwater (deep)

- ND - 4.0 µg/L
- 4.1 - 50 µg/L
- 50.1 - 100 µg/L
- 100.1 - 500 µg/L
- 500.1 - 1,100 µg/L

NOTES:
1) MW- wells are associated with the Building 1290 investigation.
2) AF- wells are associated with the UST 25 and 26 CAP Part B investigation.
3) AT-MW- wells are associated with the Purge Facility investigation.
4) AF-07 and AF-12 were destroyed as part of the UST removal; AF-07R and AF-12 have been installed to replace the afore mentioned wells.
5) In general, shallow wells intersect the water table and are <20 feet deep. Deep wells are >20 feet deep.

REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT

Estimated Extent of TCE Impact in Groundwater (2010)

ARCADIS

FIGURE
7-9

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2011 CSR\F7-9 H17_CSR GW TCE Impact Dsize.mxd - 4/4/2011 @ 3:23:39 PM

AT-MW-03				
Constituent	MCL	RRS	7/23/2006	2/17/2010
Barium	2,000	2,000	60.3	20 J (21 J)
Cadmium	5	5	< 0.3	--
Chromium	100	100	1.8	< 5.0 (< 5.0)

AT-MW-01				
Constituent	MCL	RRS	7/23/2006	2/17/2010
Barium	2,000	2,000	40.5	28
Cadmium	5	5	0.51 J	--
Chromium	100	100	16.1	< 5.0

AT-MW-05				
Constituent	MCL	RRS	7/24/2006	2/17/2010
Barium	2,000	2,000	14.2	< 25
Cadmium	5	5	< 0.3	--
Chromium	100	100	1.4 J	< 5.0

H17-MW-18D

AT-MW-04				
Constituent	MCL	RRS	7/24/2006	2/17/2010
Barium	2,000	2,000	33.4 (34.3)	37
Cadmium	5	5	0.32 J (< 0.3)	--
Chromium	100	100	3 J (3.6 J)	2.2 J

AT-MW-02				
Constituent	MCL	RRS	7/23/2006	2/17/2010
Barium	2,000	2,000	12.1	9.4 J
Cadmium	5	5	< 0.3	--
Chromium	100	100	1.3 J	2.2 J

LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)

NOTES:
1) All concentrations are reported in micrograms per liter (µg/L).
2) Italic results indicate a maximum contaminant level (MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009)) exceedance.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) RSS - Type 1 RSS.
6) - - Not Sampled.
7) (####) - Duplicate Data.

0 160 320
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT

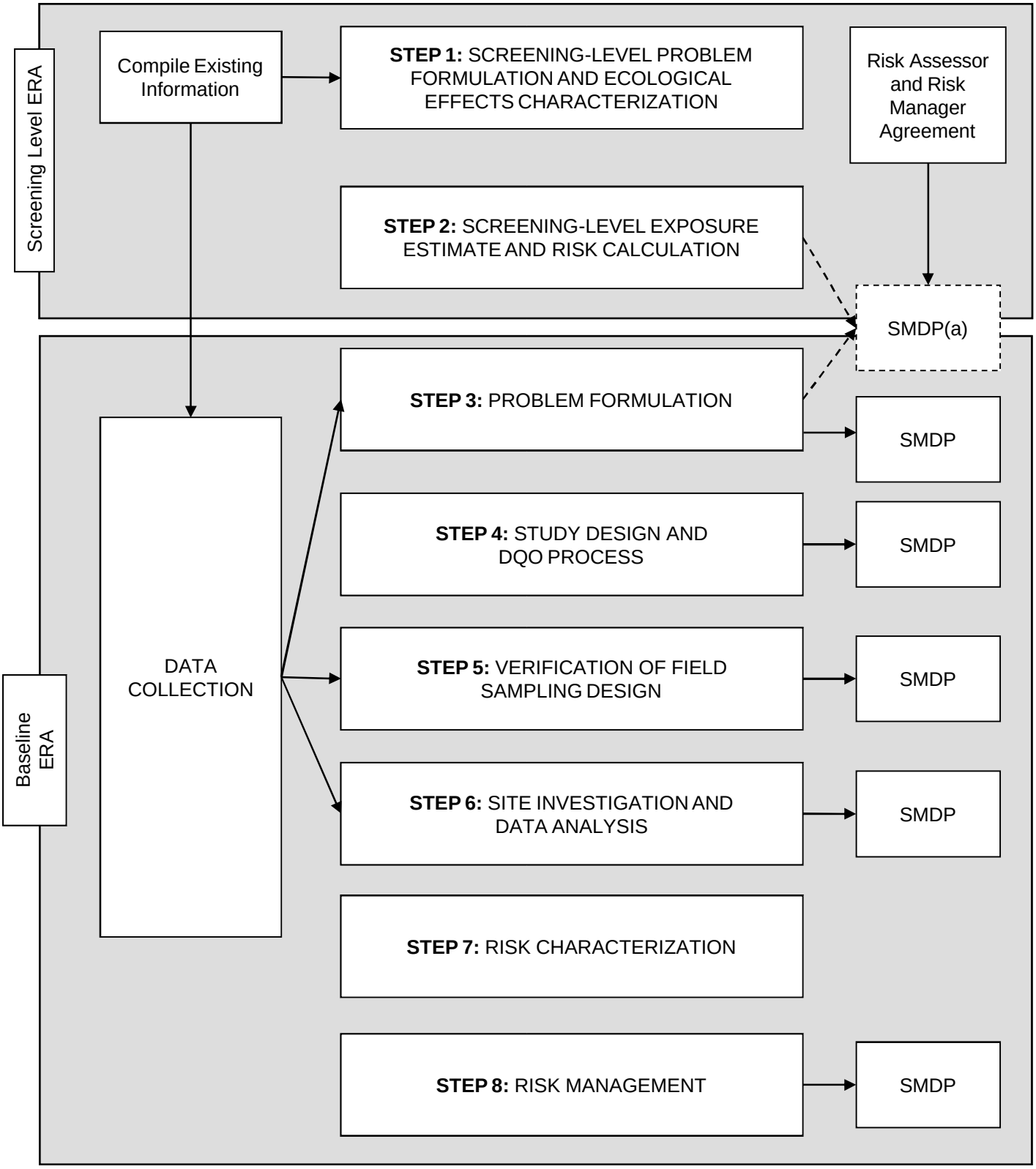
Concentrations of Metals Detected in Groundwater

ARCADIS

FIGURE **7-10**

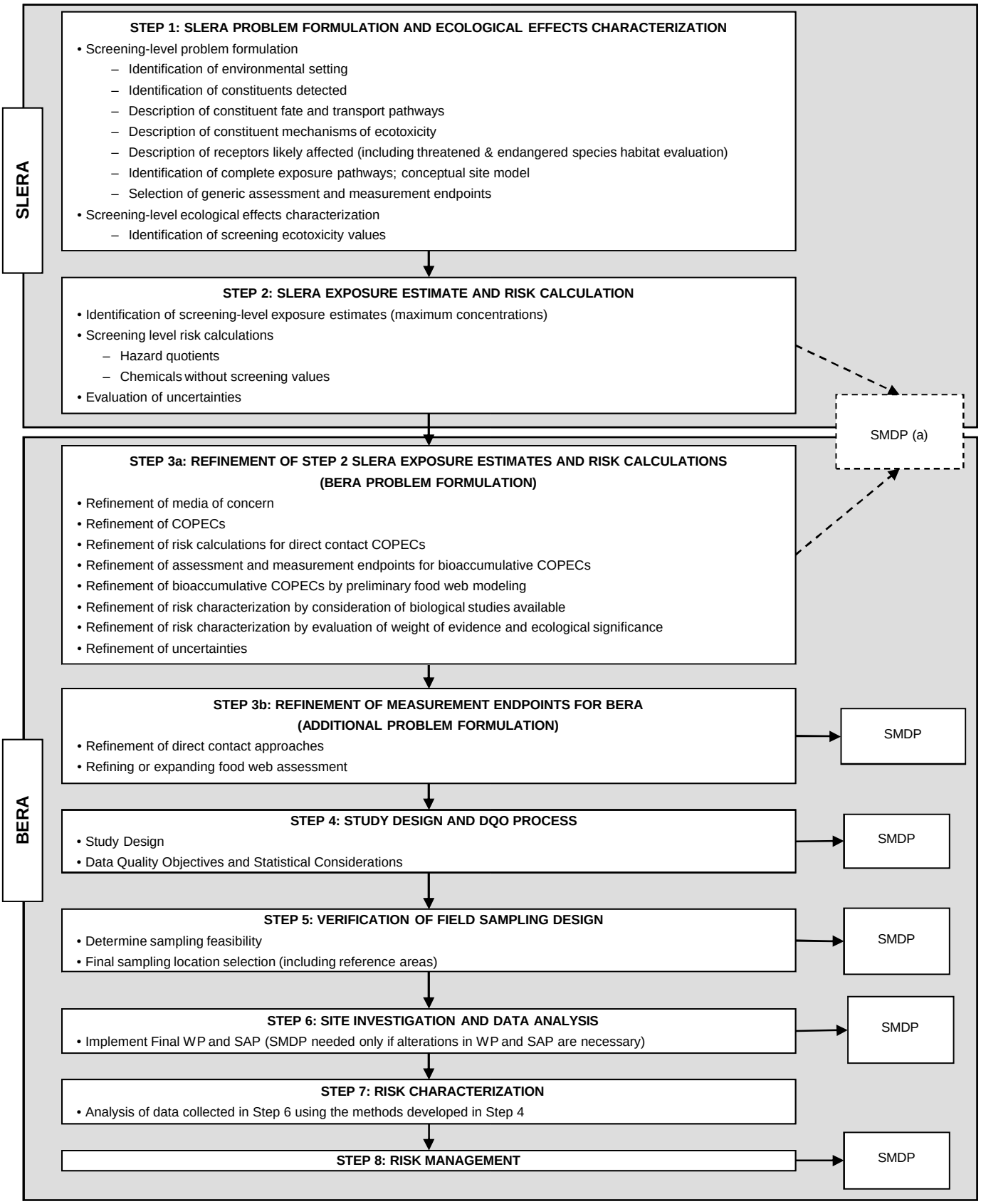
CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2010 CSR\F7-10 H17_CSR_GW Metals.mxd - 4/4/2011 @ 3:26:30 PM

Figure 9-1
Eight-Step Ecological Risk Assessment Process



Notes:
(a) SMDP occurs EITHER after Step 2 or after Step 3a
ERA Ecological Risk Assessment
SMDP Scientific Management Decision Point
Source Adapted from USEPA 2000a

Figure 9-2
Expanded Eight-Step Ecological Risk Assessment Process



Notes:

(a) SMDP occurs EITHER after Step 2 or after Step 3a

COPECs Constituents of Potential Ecological Concern

DQO Data Quality Objectives

GW Groundwater

SAP Sampling and Analysis Plan

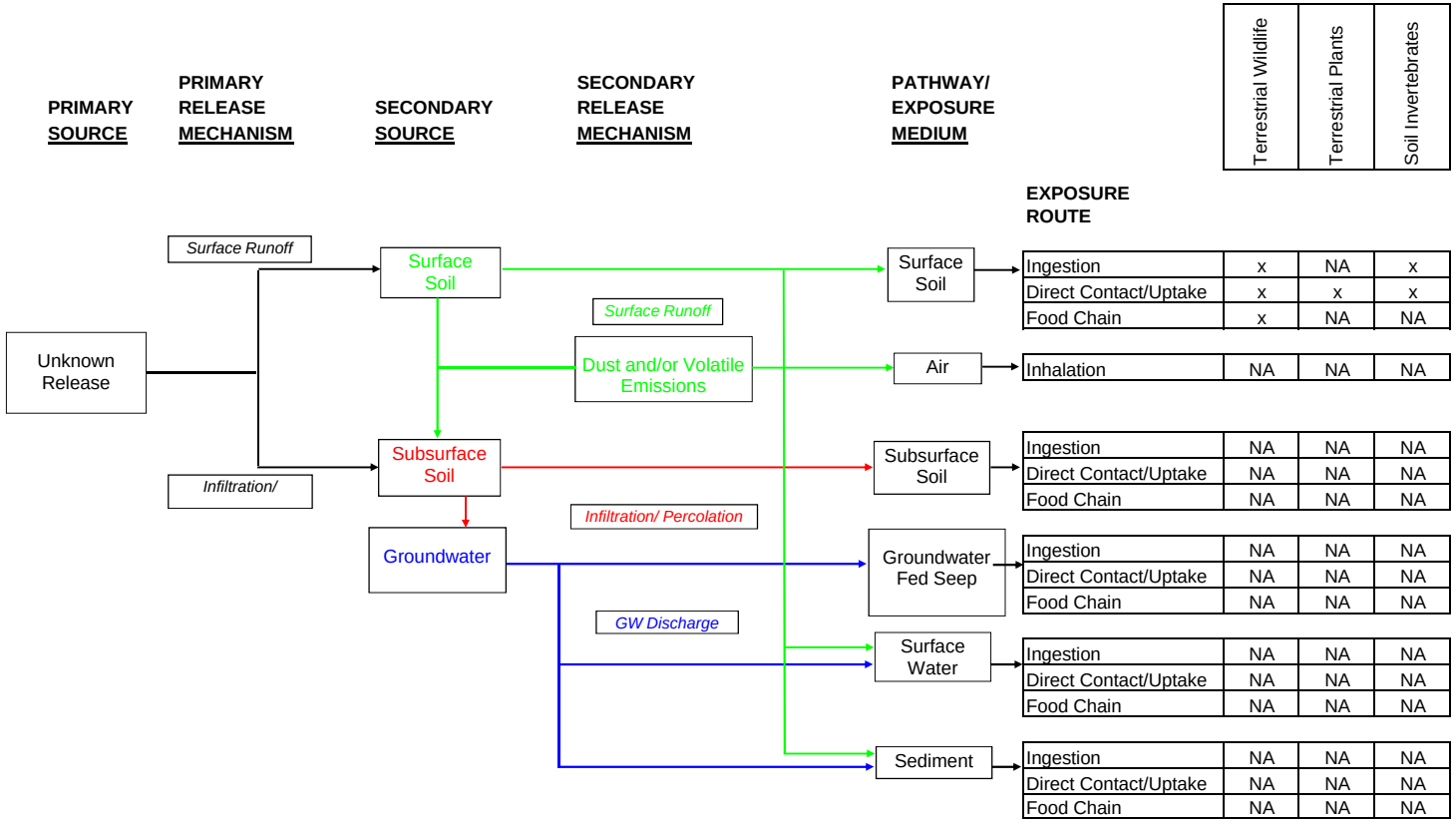
SMDP Scientific Management Decision Point

WP Work Plan

BERA Baseline ERA

SLERA Screening-level ERA

Source: Adapted from USEPA 1997 and 2000a

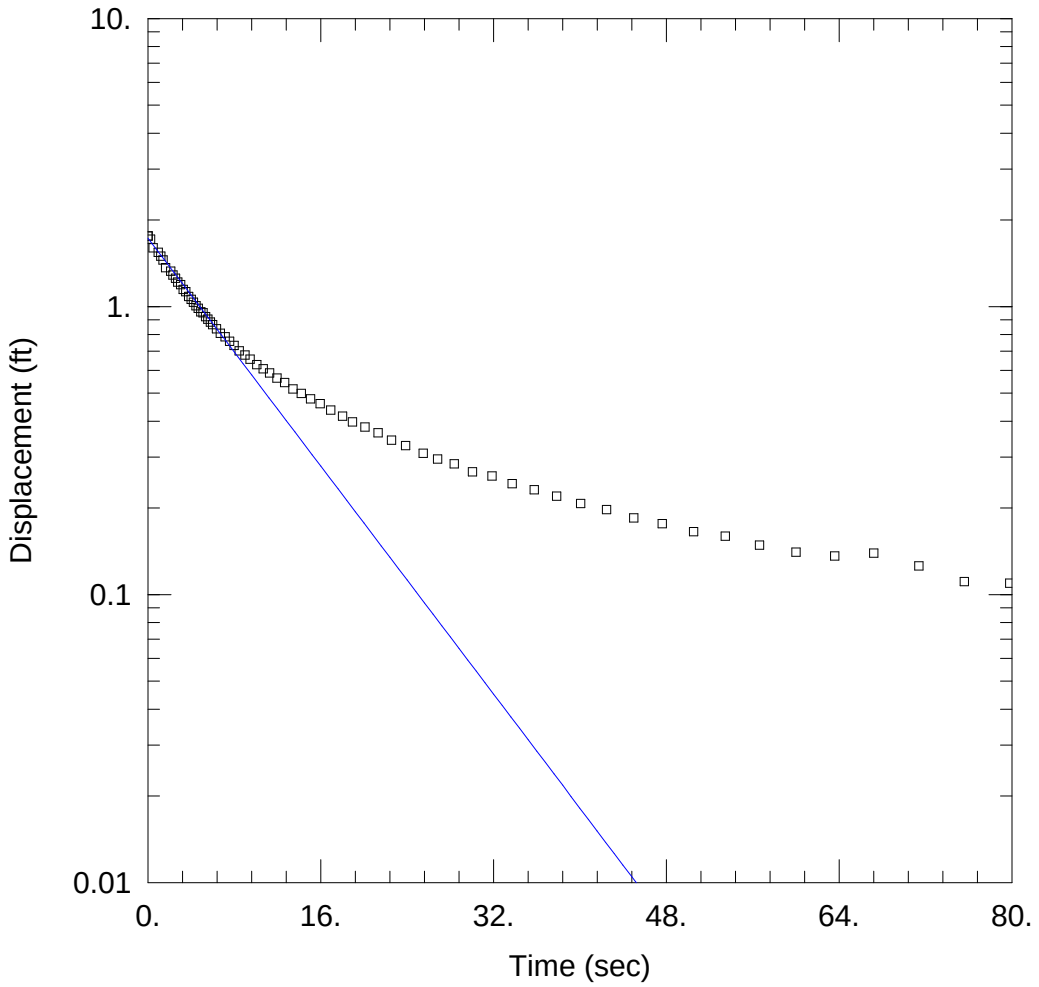


NA Pathway not applicable.
x Potential pathway.

ARCADIS

Conceptual Site Model for Potential Ecological Receptors
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
Hunter Army Airfield - Savannah, Georgia

Figure 9-3



AF-08 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-08
Test Date: 11-4-09

AQUIFER DATA

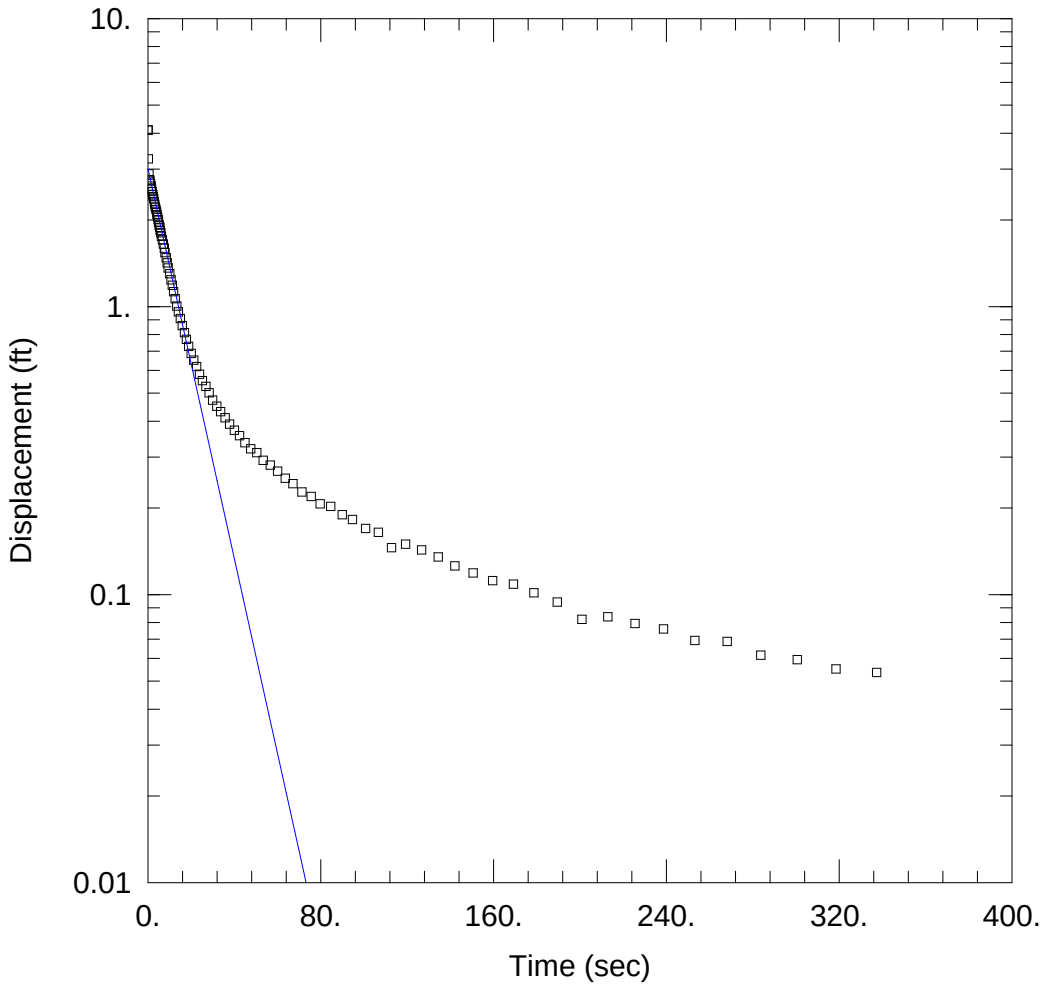
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-08)

Initial Displacement: 1.76 ft
Total Well Penetration Depth: 9.1 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.1 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.027E-5 ft/sec
y0 = 1.727 ft



AF-08 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-08
Test Date: 11-4-09

AQUIFER DATA

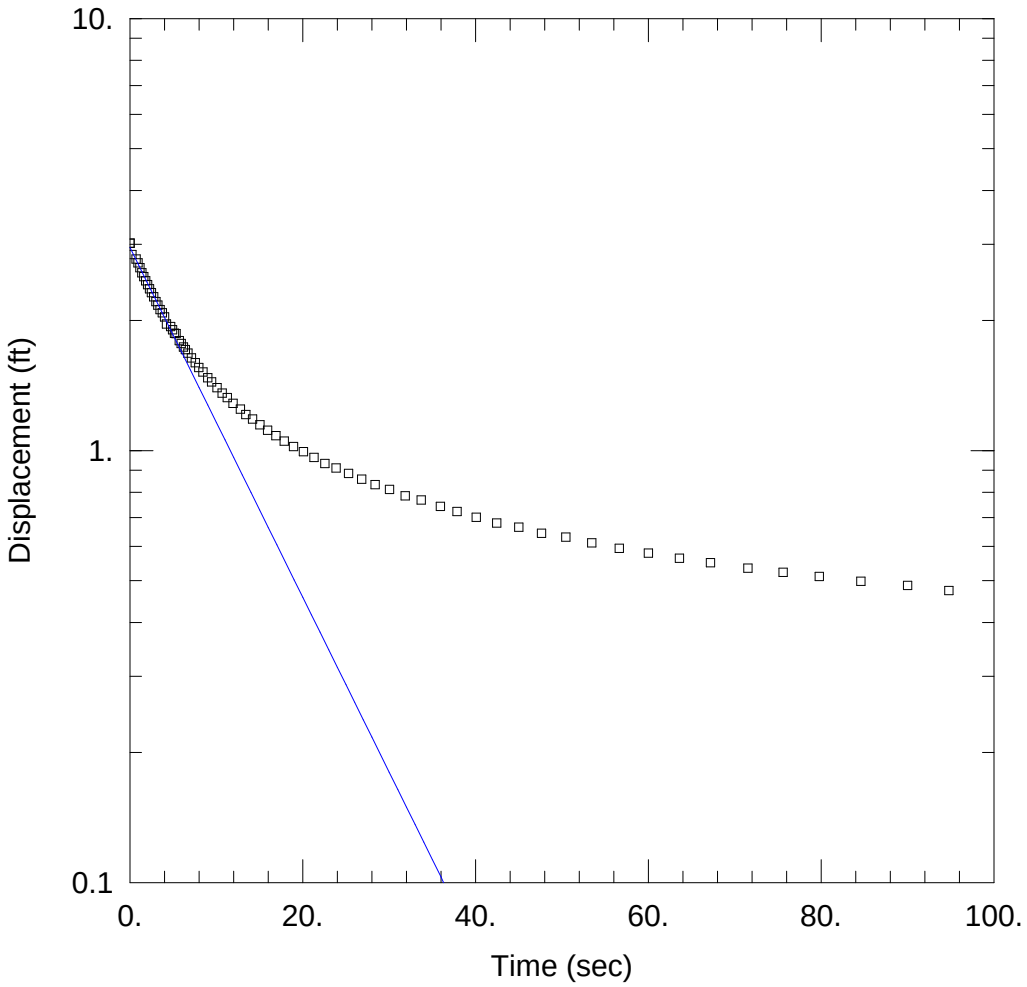
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-08)

Initial Displacement: 4.1 ft
Total Well Penetration Depth: 9.1 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.1 ft
Well Radius: 0.03125 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.028E-6 ft/sec
y0 = 3.006 ft



AF-20 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-20
Test Date: 11-4-09

AQUIFER DATA

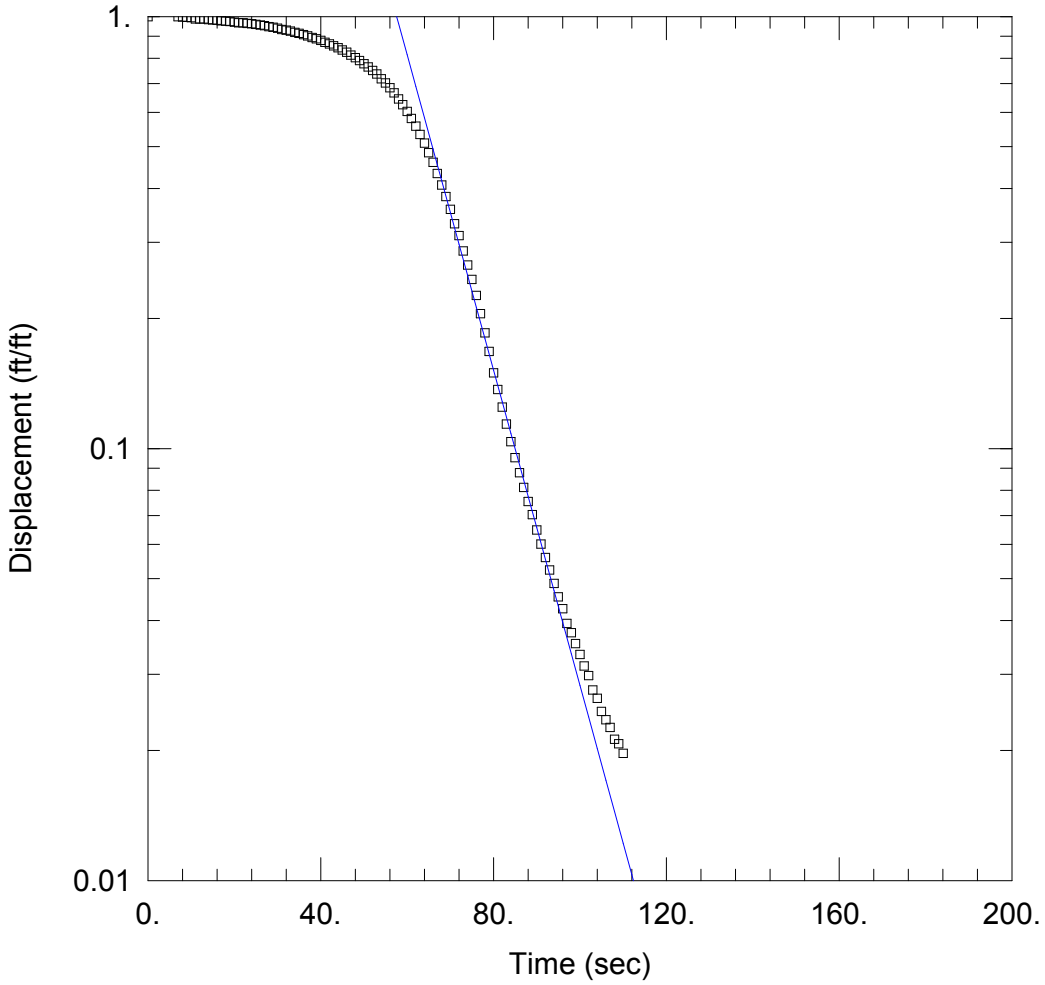
Saturated Thickness: 40. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-20)

Initial Displacement: 3.02 ft
Total Well Penetration Depth: 9.12 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.12 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
K = 8.388E-6 ft/sec
Solution Method: Bouwer-Rice
y0 = 2.949 ft



AF-20 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-20
Test Date: 11-4-09

AQUIFER DATA

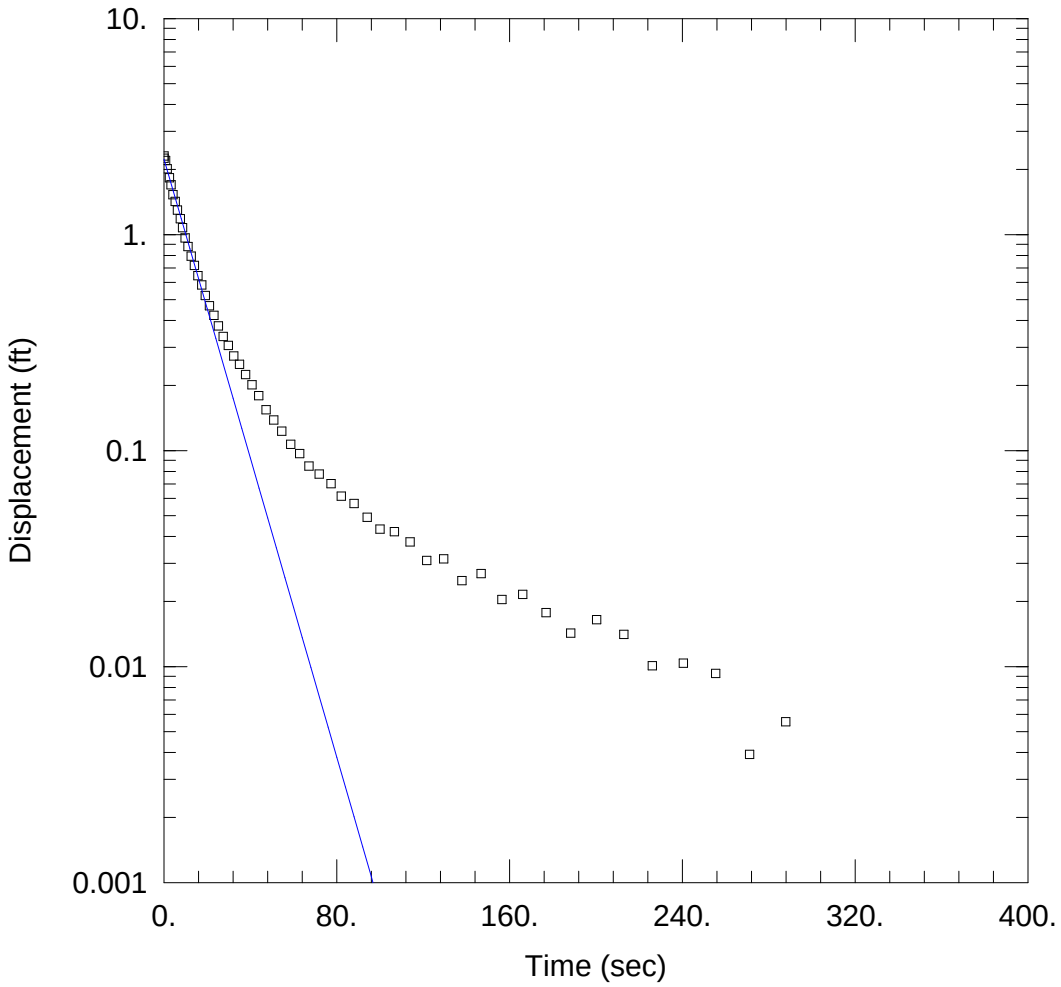
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-20)

Initial Displacement: 7.02 ft
Total Well Penetration Depth: 8.99 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 8.99 ft
Well Radius: 0.03125 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.646E-6 ft/sec
y0 = 885.4 ft



AF-24 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-24
Test Date: 11-4-09

AQUIFER DATA

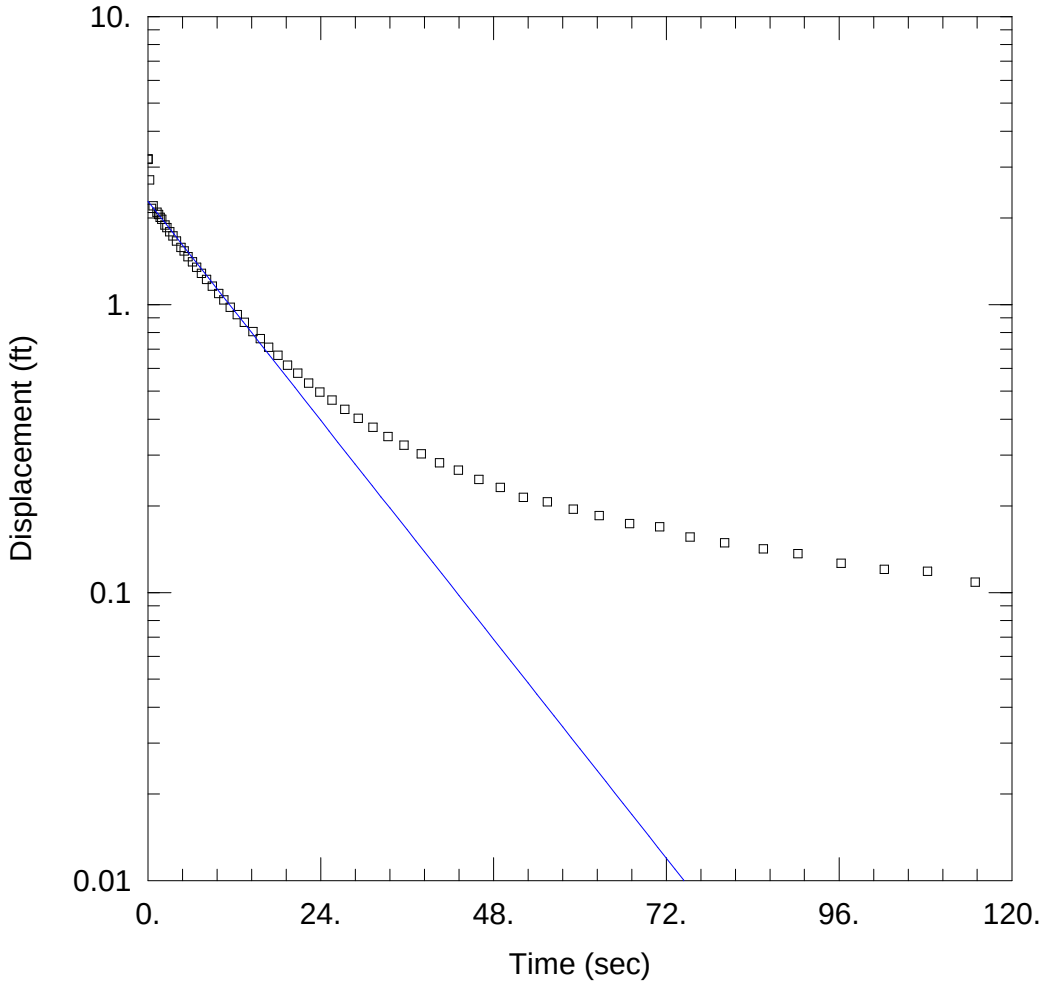
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-24)

Initial Displacement: 2.31 ft
Total Well Penetration Depth: 9.6 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 9.81 ft
Screen Length: 9.6 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.9E-6 ft/sec
y0 = 2.236 ft



AF-24 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-24
Test Date: 11-4-09

AQUIFER DATA

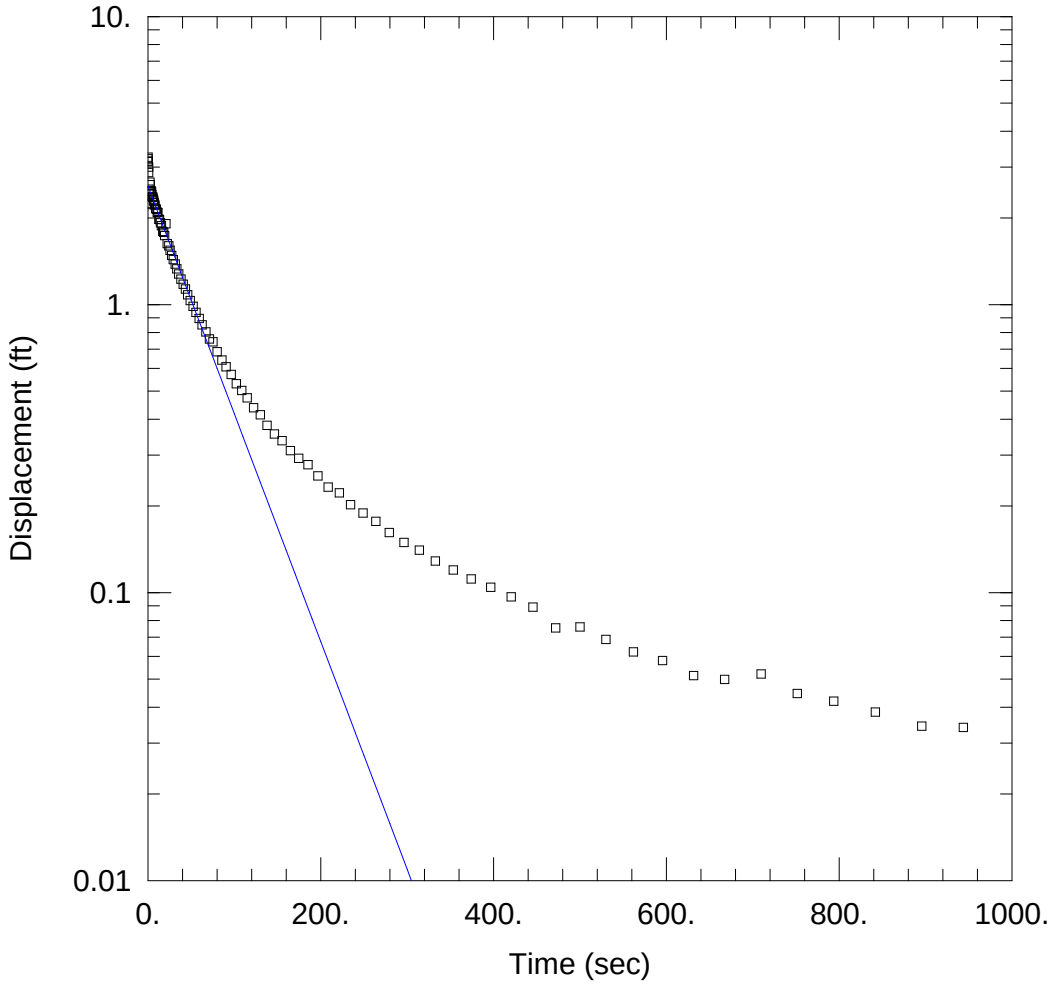
Saturated Thickness: 40. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-24)

Initial Displacement: 3.19 ft
Total Well Penetration Depth: 9.6 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 9.81 ft
Screen Length: 9.6 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.317E-6 ft/sec
y0 = 2.284 ft



AF-53 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-53
Test Date: 11-3-09

AQUIFER DATA

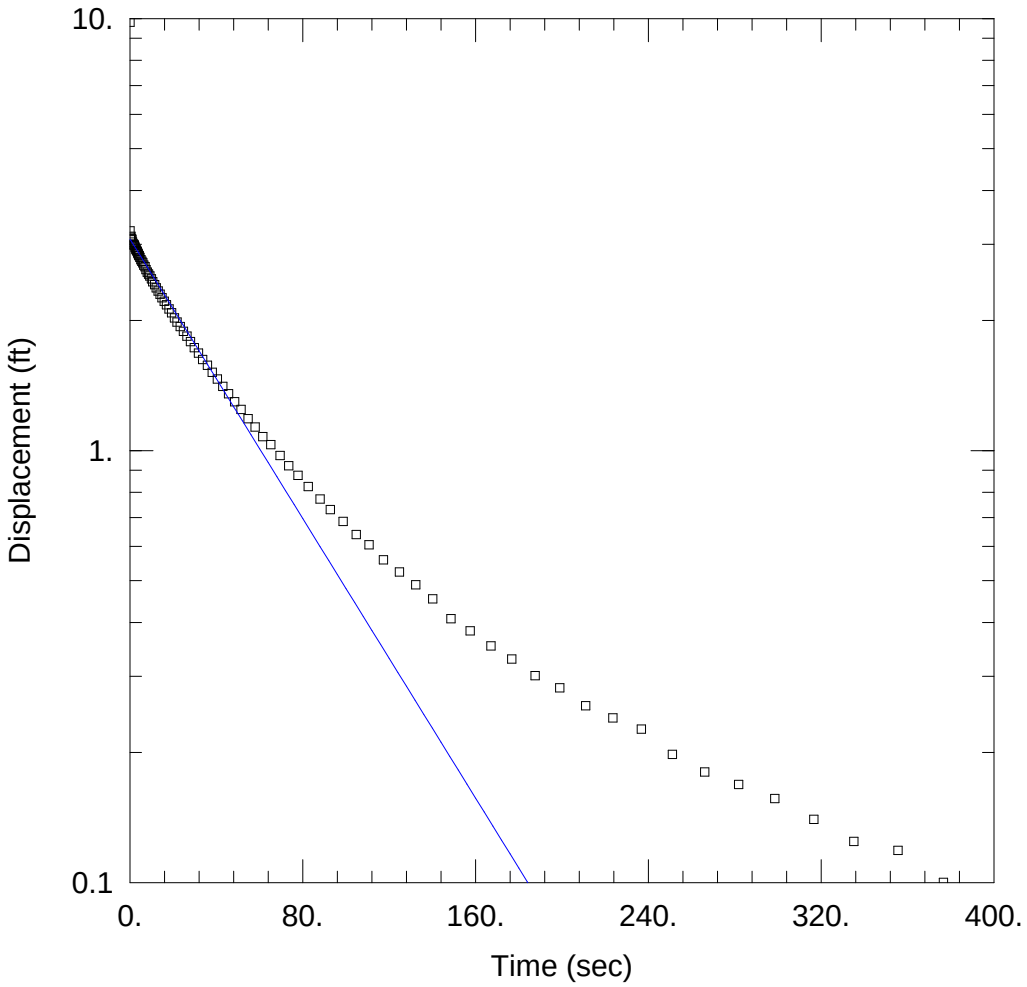
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-53)

Initial Displacement: 3.21 ft
Total Well Penetration Depth: 26.61 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 26.23 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 1.857E-5 ft/sec
Solution Method: Bouwer-Rice
y0 = 2.574 ft



AF-53 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-53
Test Date: 11-3-09

AQUIFER DATA

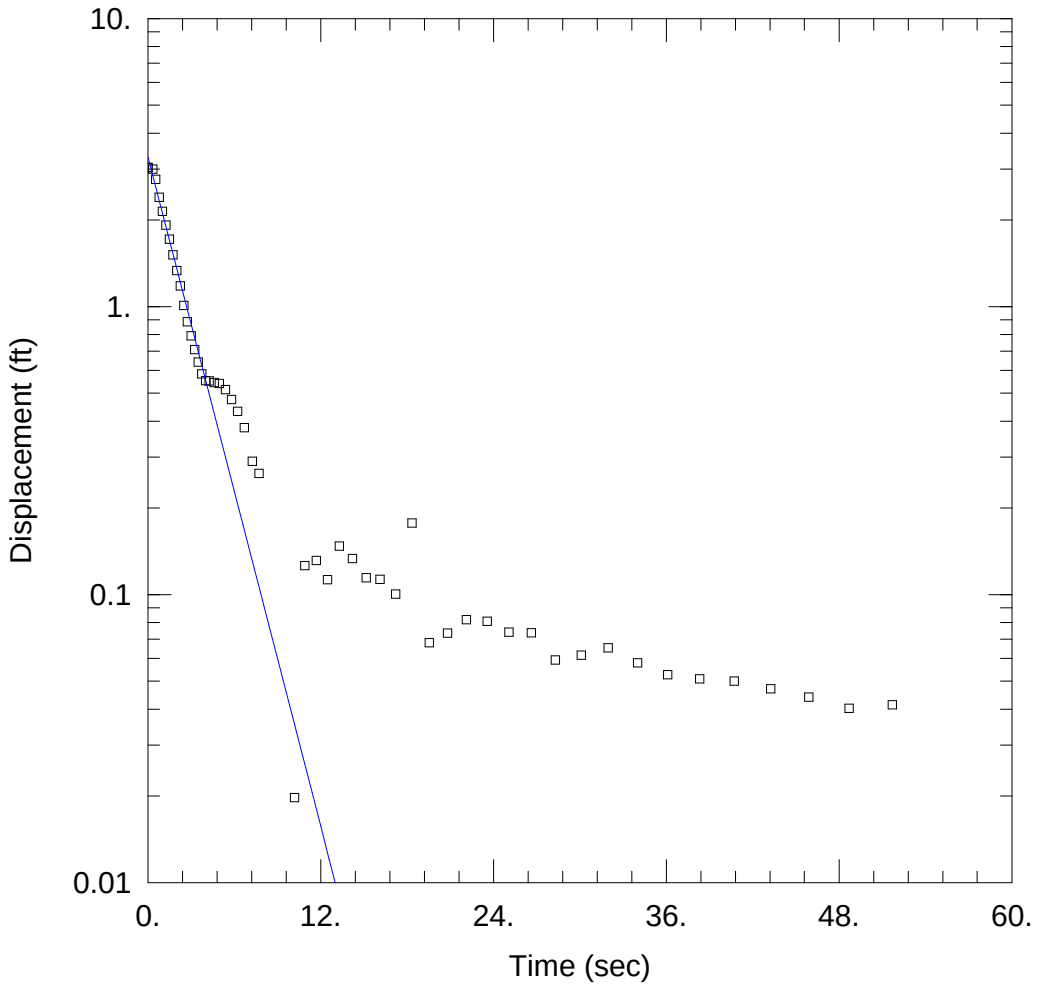
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-53)

Initial Displacement: 9.8 ft
Total Well Penetration Depth: 26.71 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 26.23 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.902E-5 ft/sec
y0 = 3.087 ft



AF-54 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-54
Test Date: 11-3-09

AQUIFER DATA

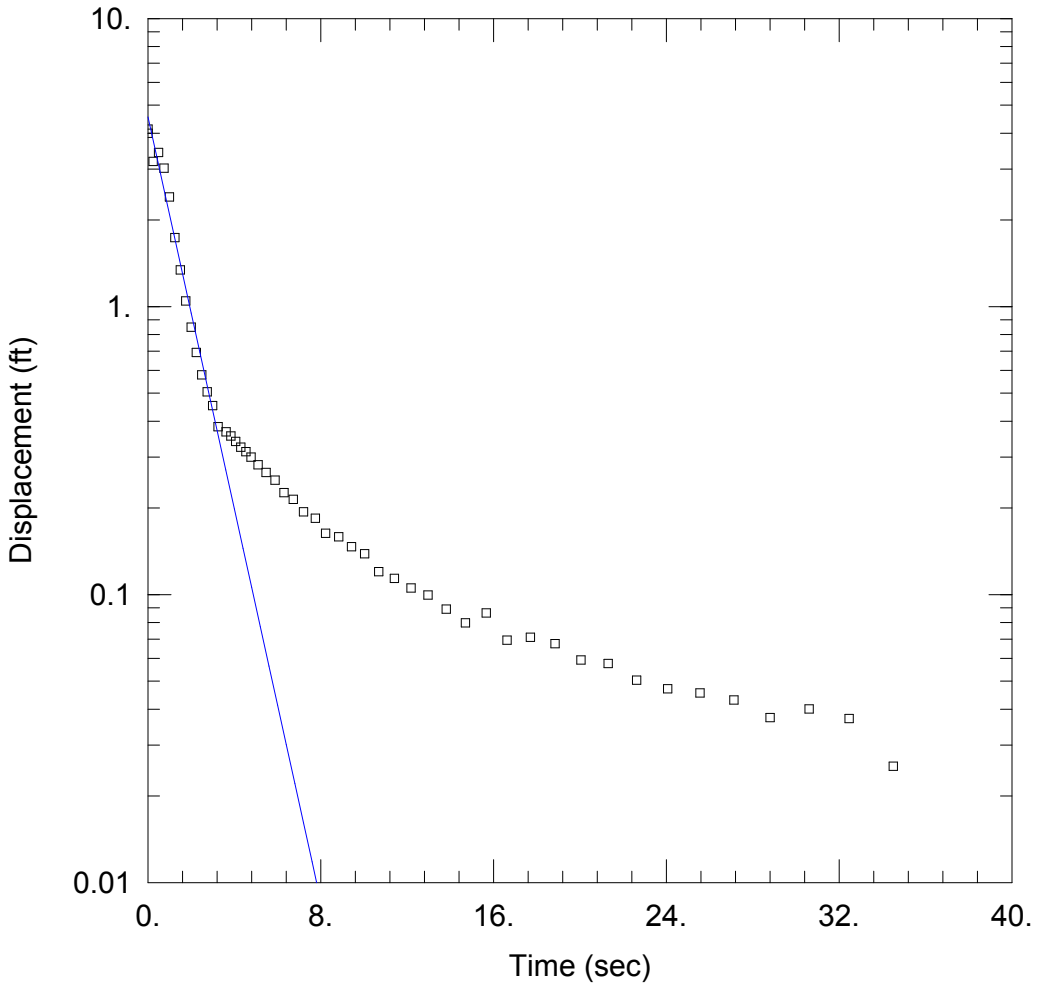
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-54)

Initial Displacement: 3.04 ft
Total Well Penetration Depth: 39.36 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 29.36 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 0.0005298 ft/sec
Solution Method: Bouwer-Rice
y0 = 3.301 ft



AF-54 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-54
Test Date: 11-3-09

AQUIFER DATA

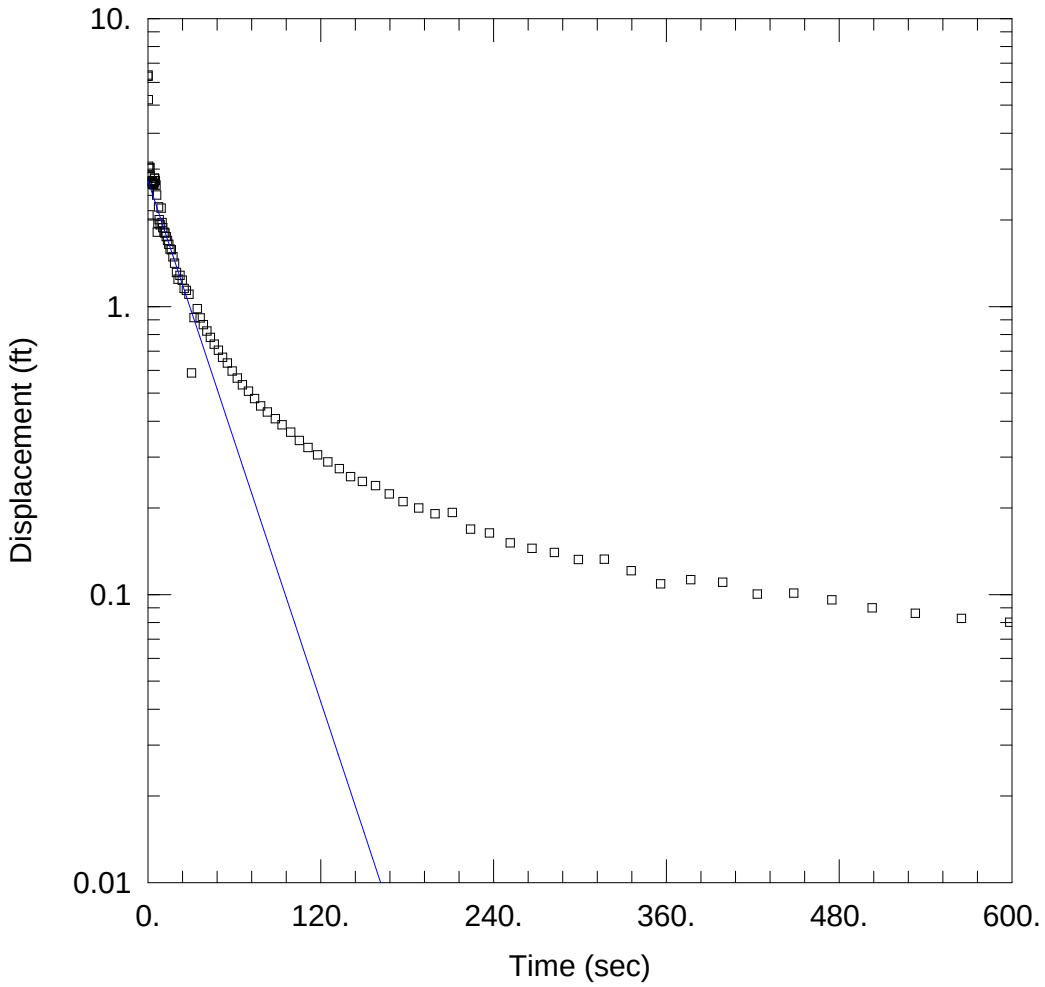
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-54)

Initial Displacement: 4.13 ft
Total Well Penetration Depth: 39.36 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 38.99 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0009321 ft/sec
y0 = 4.557 ft



AF-55 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-55
Test Date: 11-3-09

AQUIFER DATA

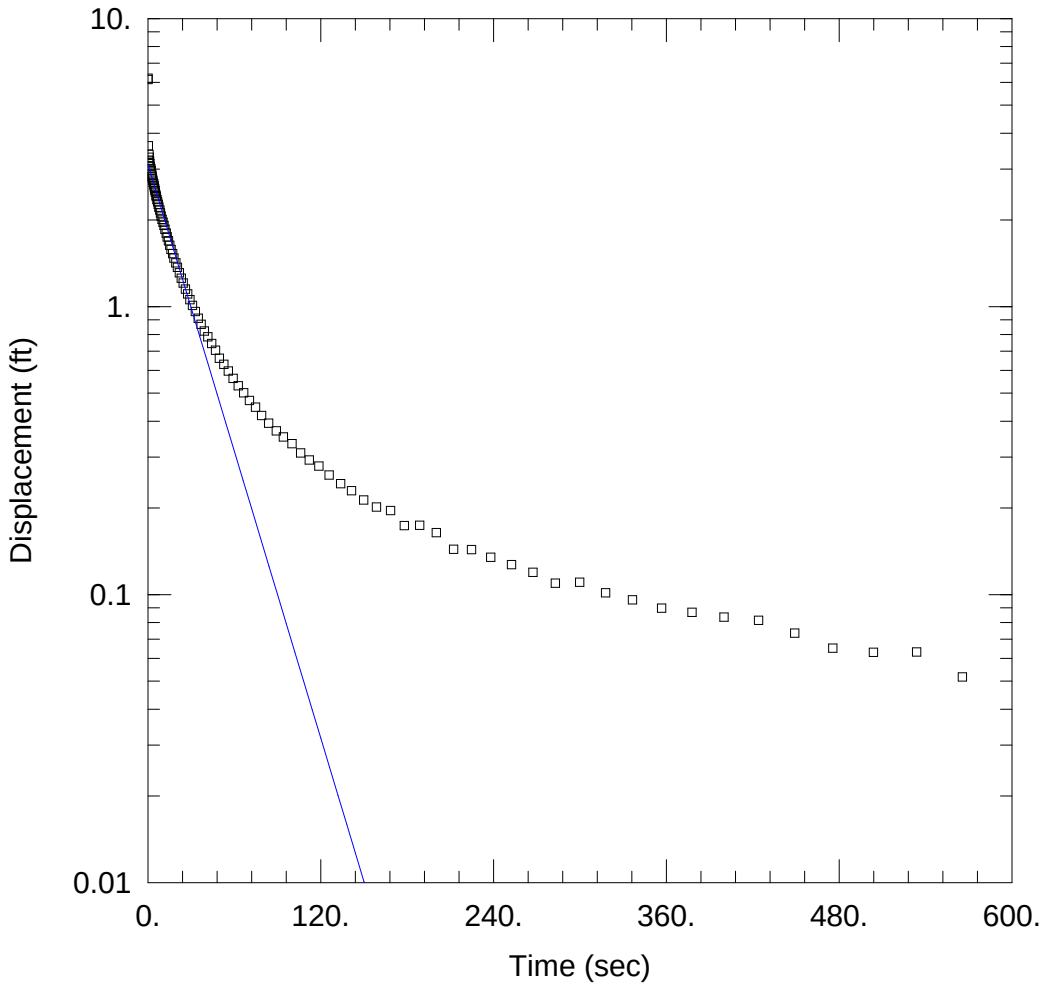
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-55)

Initial Displacement: 6.3 ft
Total Well Penetration Depth: 30.5 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 3.99E-5 ft/sec
Solution Method: Bouwer-Rice
y0 = 2.739 ft



AF-55 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-55
Test Date: 11-3-09

AQUIFER DATA

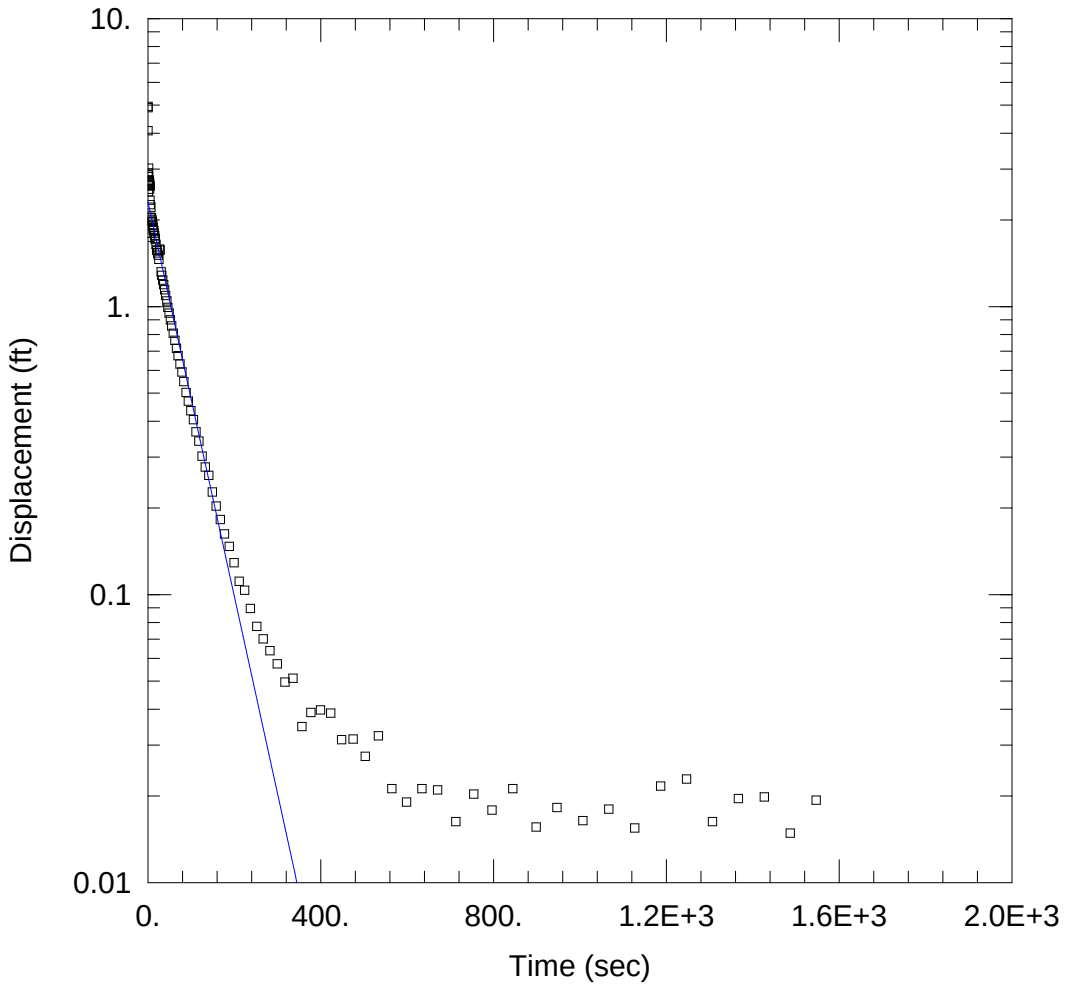
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-55)

Initial Displacement: 6.2 ft
Total Well Penetration Depth: 30.5 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.391E-5 ft/sec
y0 = 3.112 ft



AF-57 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-57
Test Date: 11-3-09

AQUIFER DATA

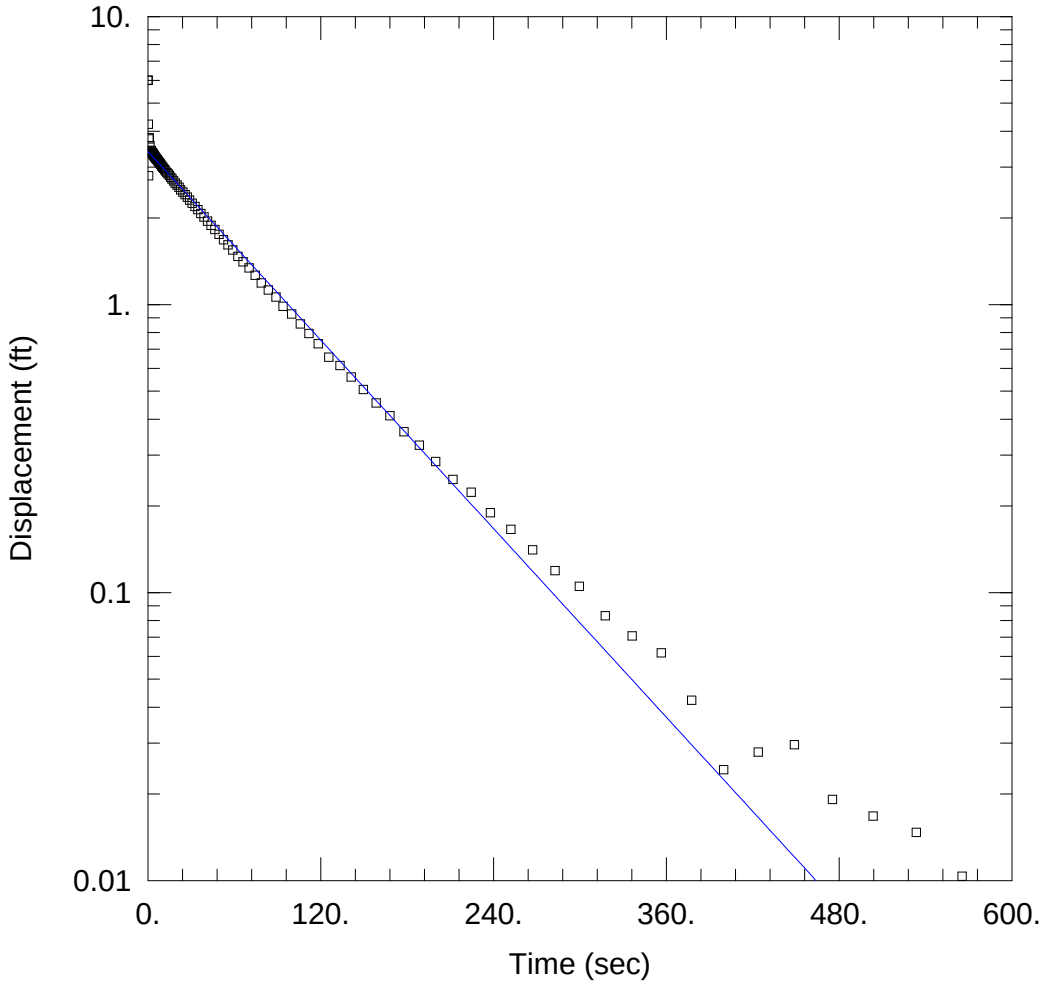
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-57)

Initial Displacement: 4.9 ft
Total Well Penetration Depth: 60.3 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 5. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 3.801E-5 ft/sec
Solution Method: Bouwer-Rice
y0 = 2.307 ft



AF-57 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-57
Test Date: 11-3-09

AQUIFER DATA

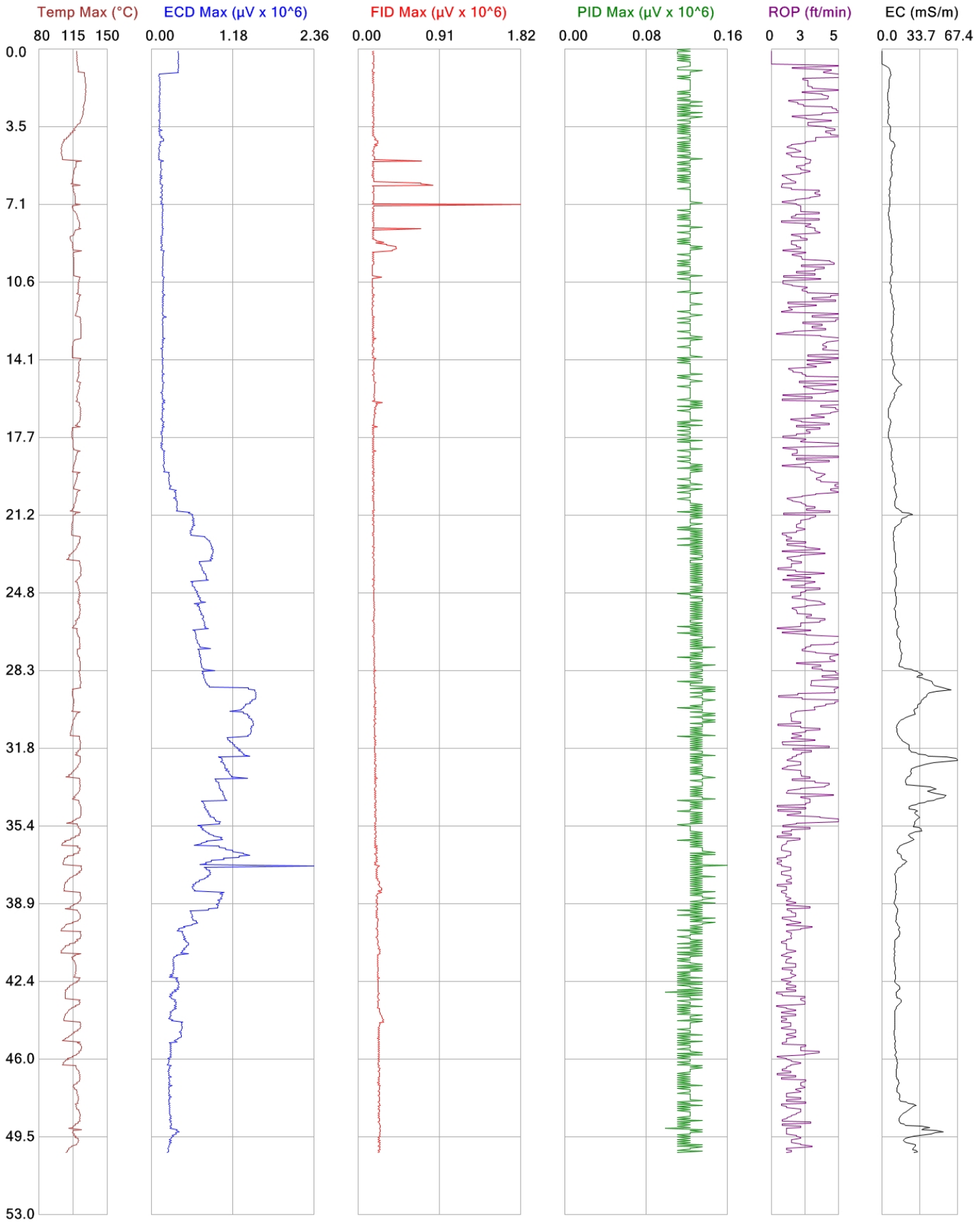
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-57)

Initial Displacement: 6. ft
Total Well Penetration Depth: 60.28 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 5. ft
Well Radius: 0.0833 ft

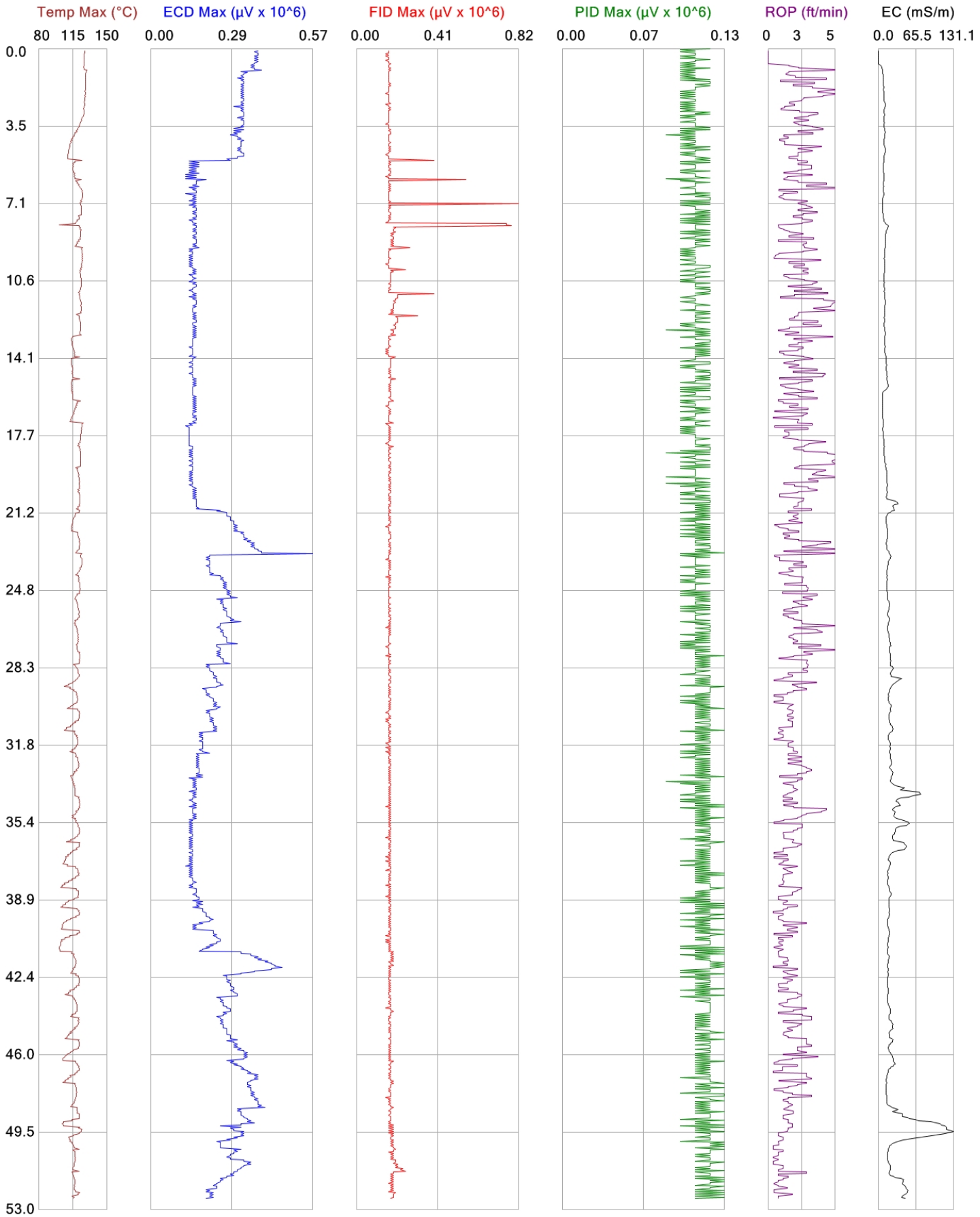
SOLUTION

Aquifer Model: Unconfined
K = 3.143E-5 ft/sec
Solution Method: Hvorslev
y0 = 3.397 ft



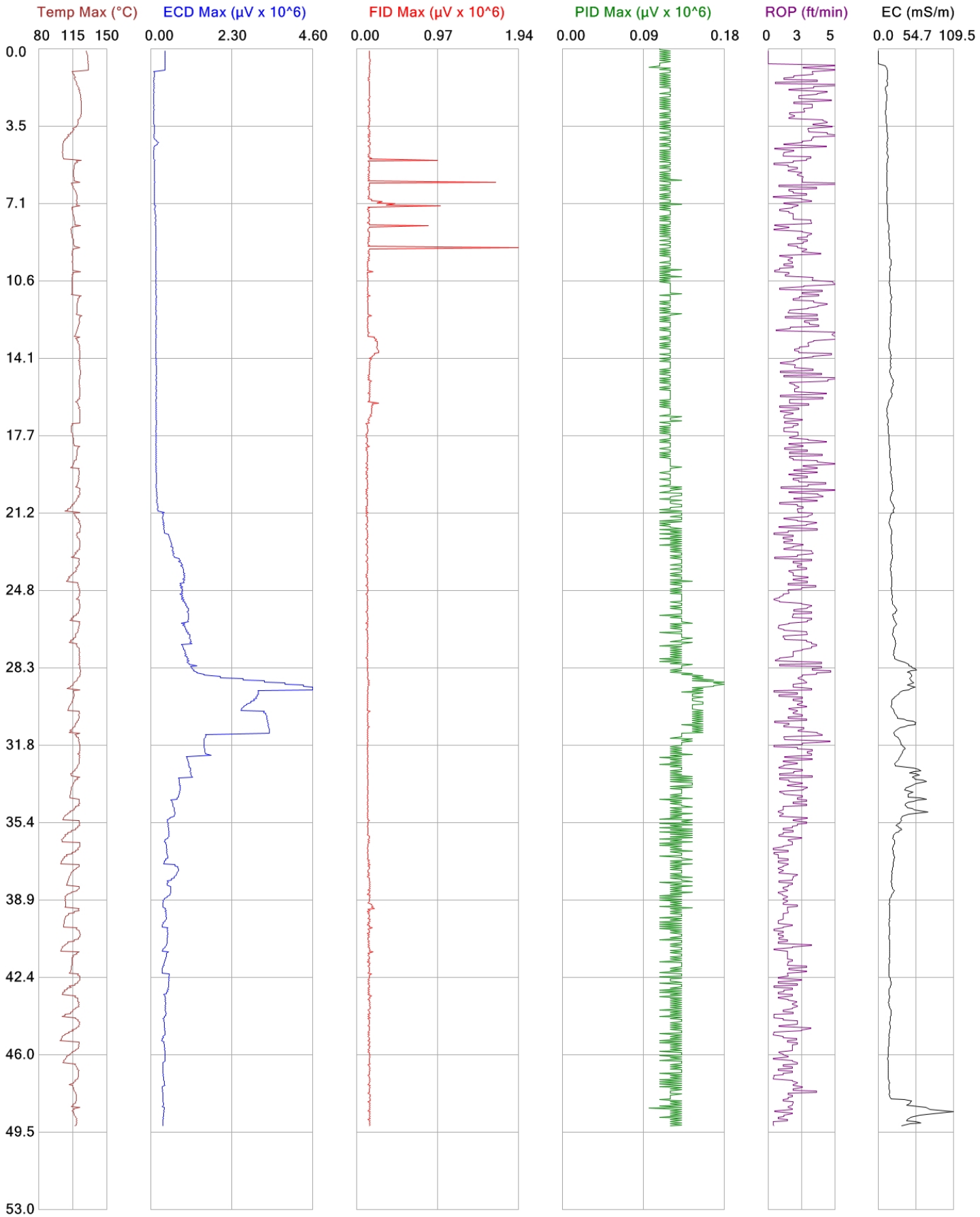
COLUMBIA TECHNOLOGIES

	File: M-AF-01
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



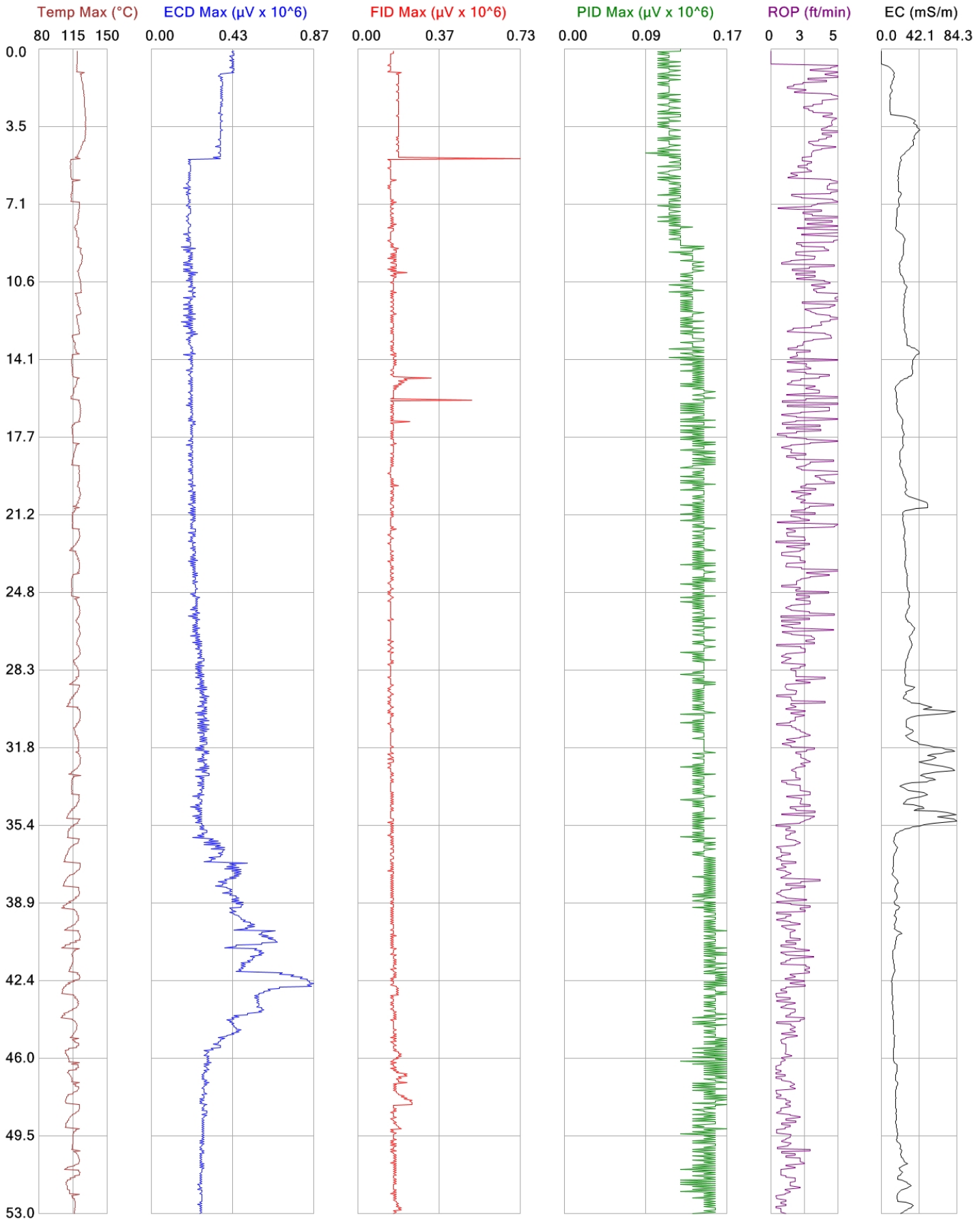
COLUMBIA TECHNOLOGIES

	File: M-AF-100
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



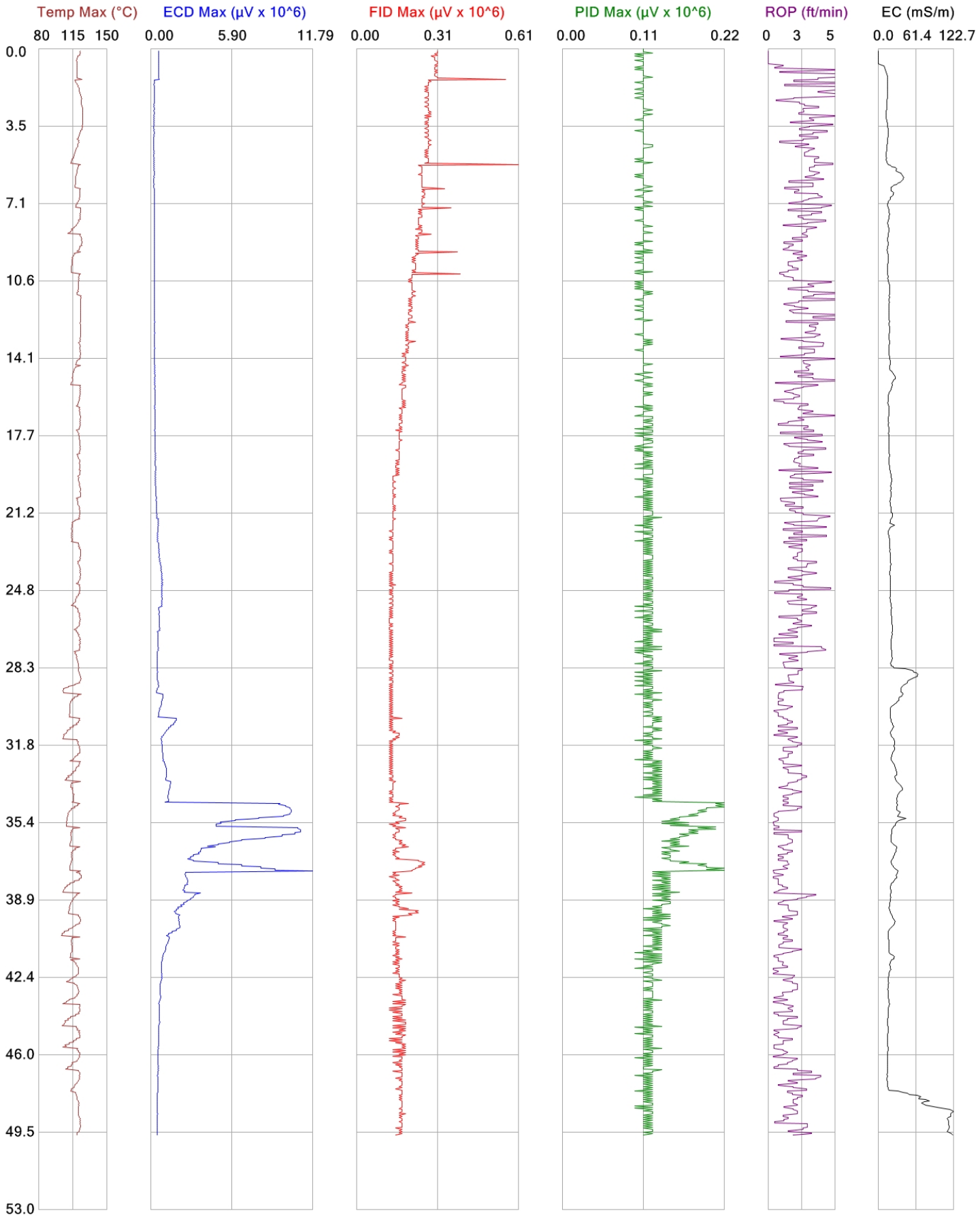
COLUMBIA TECHNOLOGIES

	File: M-AF-15
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



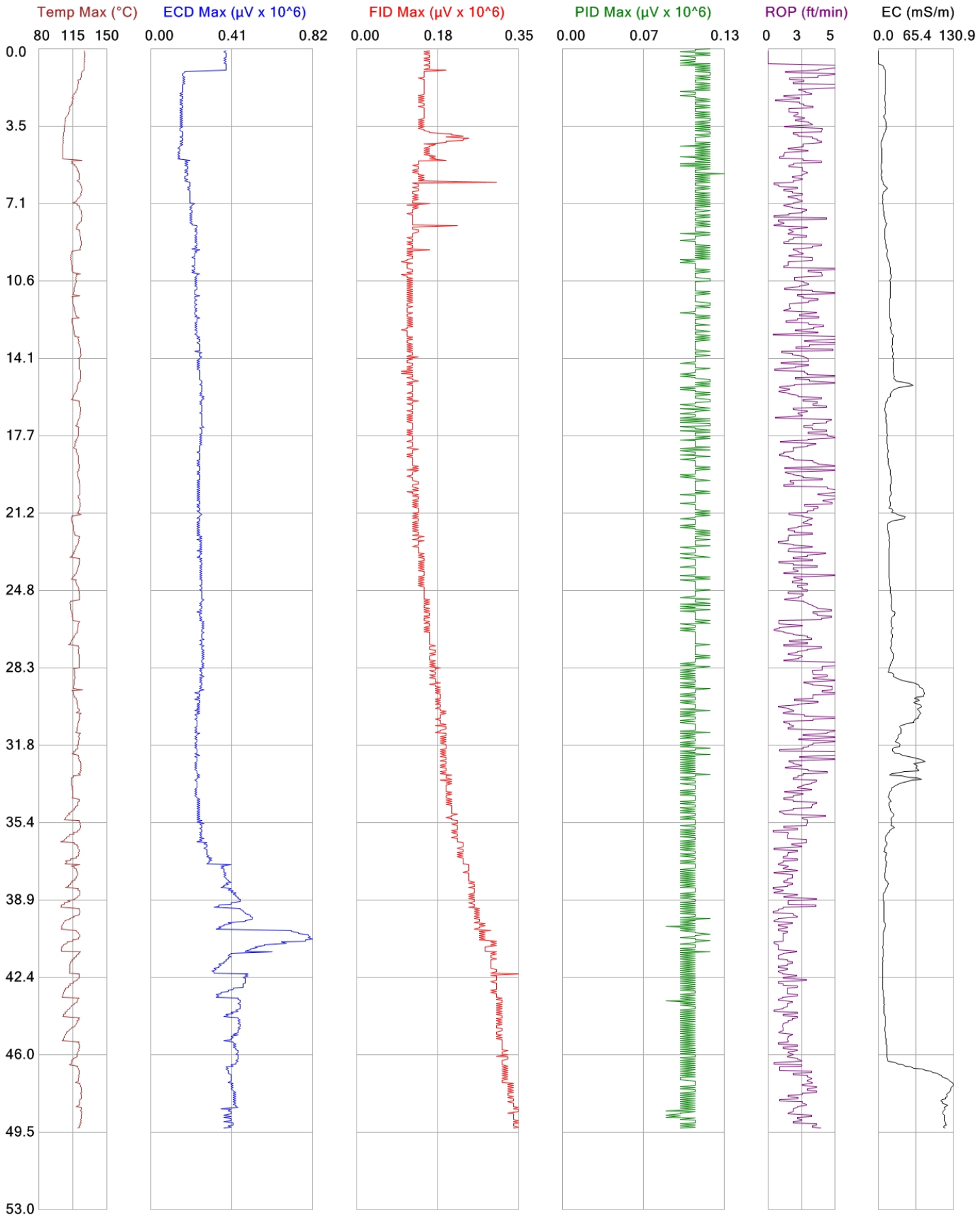
COLUMBIA TECHNOLOGIES

	File: M-AF-40
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



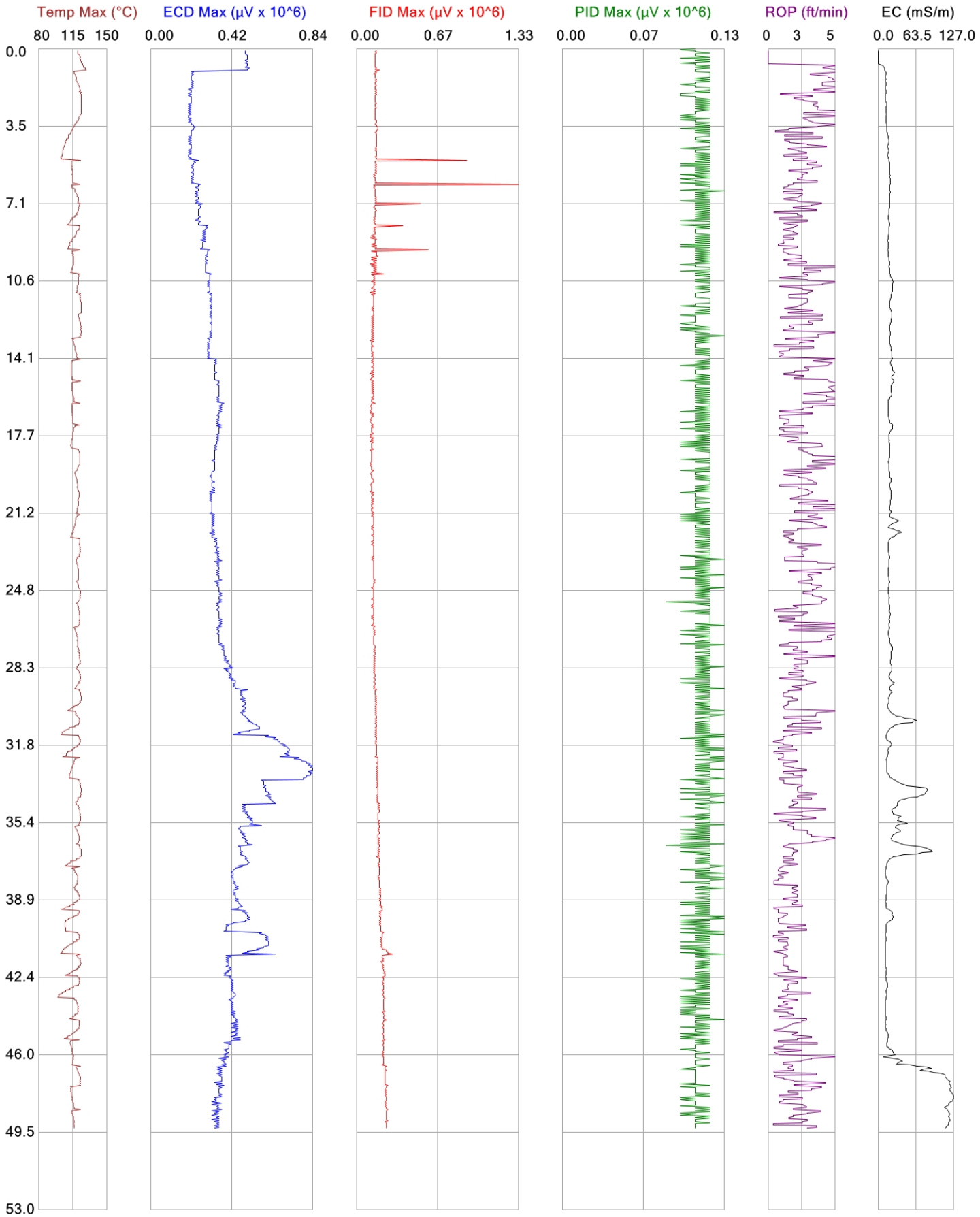
COLUMBIA TECHNOLOGIES

	File: M-AF-53
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



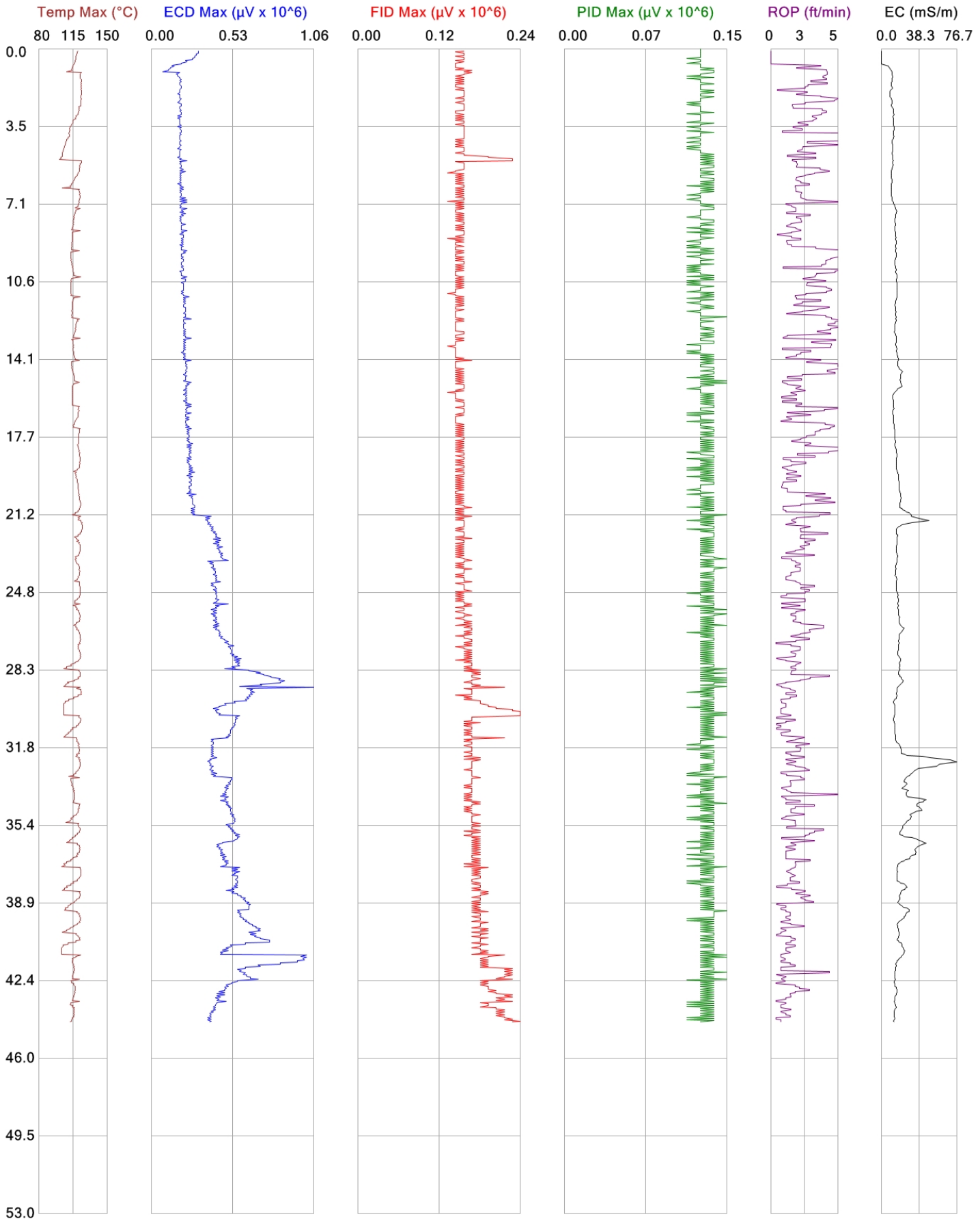
COLUMBIA TECHNOLOGIES

	File: M-AF-54
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



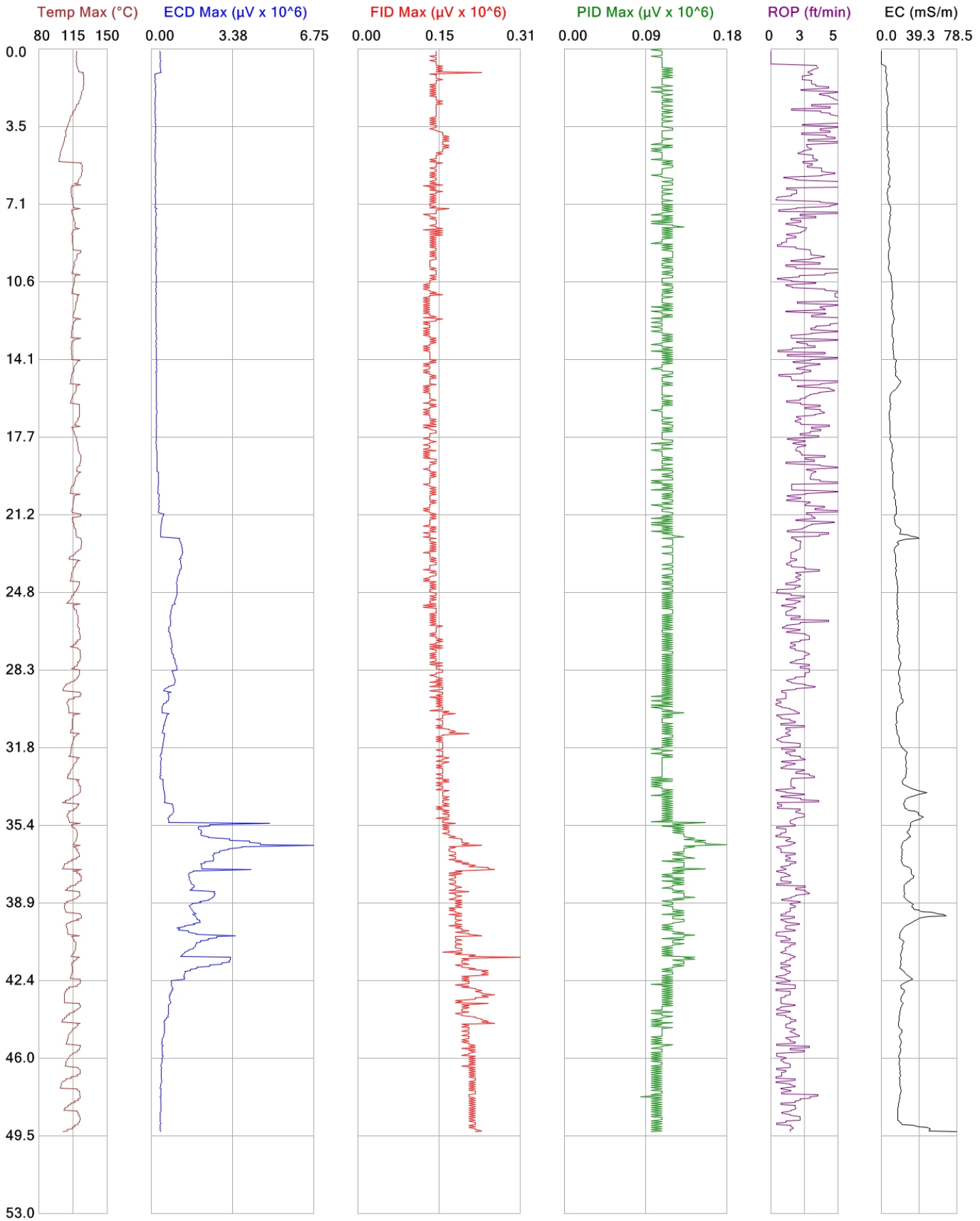
COLUMBIA TECHNOLOGIES

	File: M-AF-55
Client: ARCADIS	Date: 11/9/2009
Project ID: Hunter Army Air Field Area 17	Location:



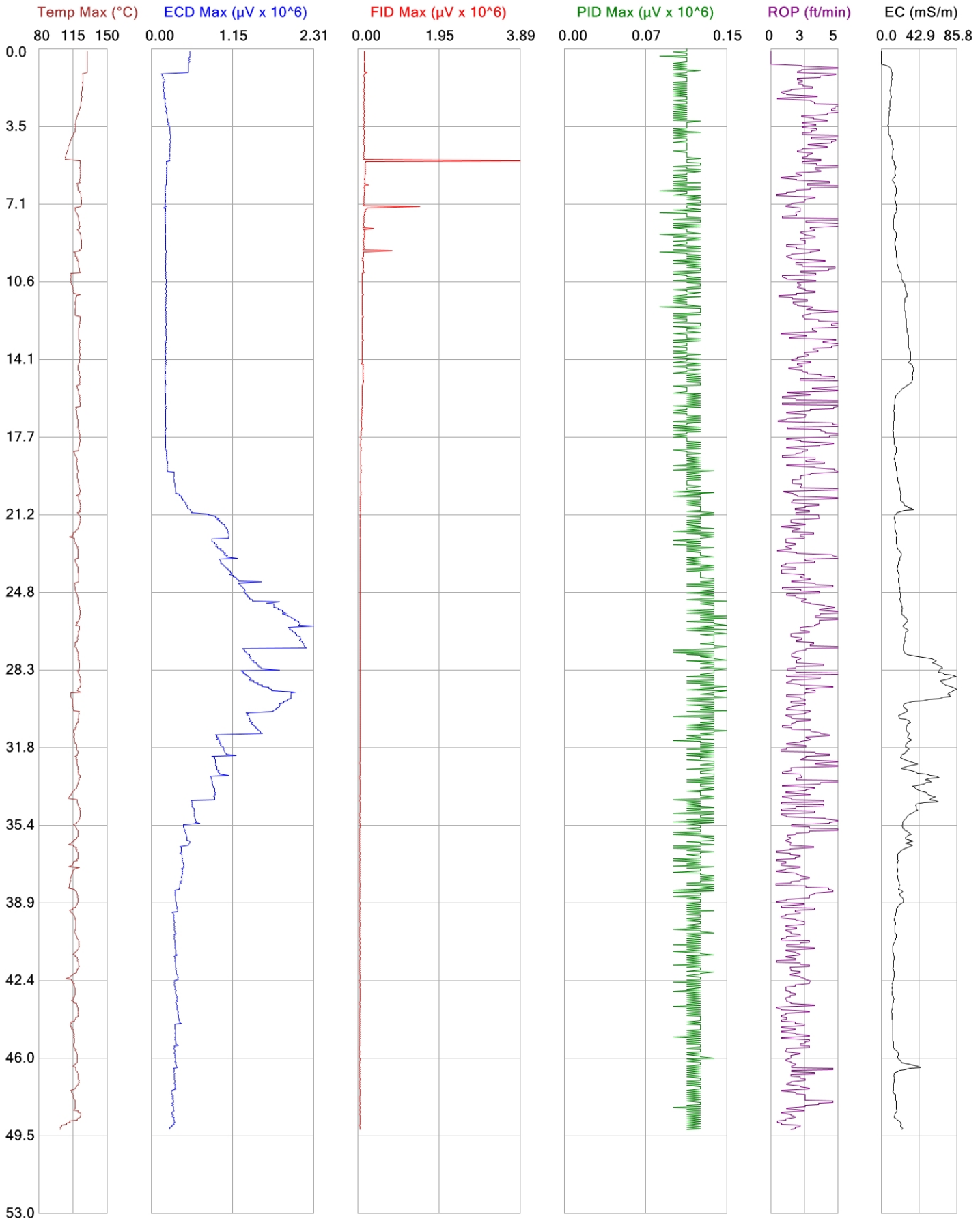
COLUMBIA TECHNOLOGIES

	File: M-AF-56
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



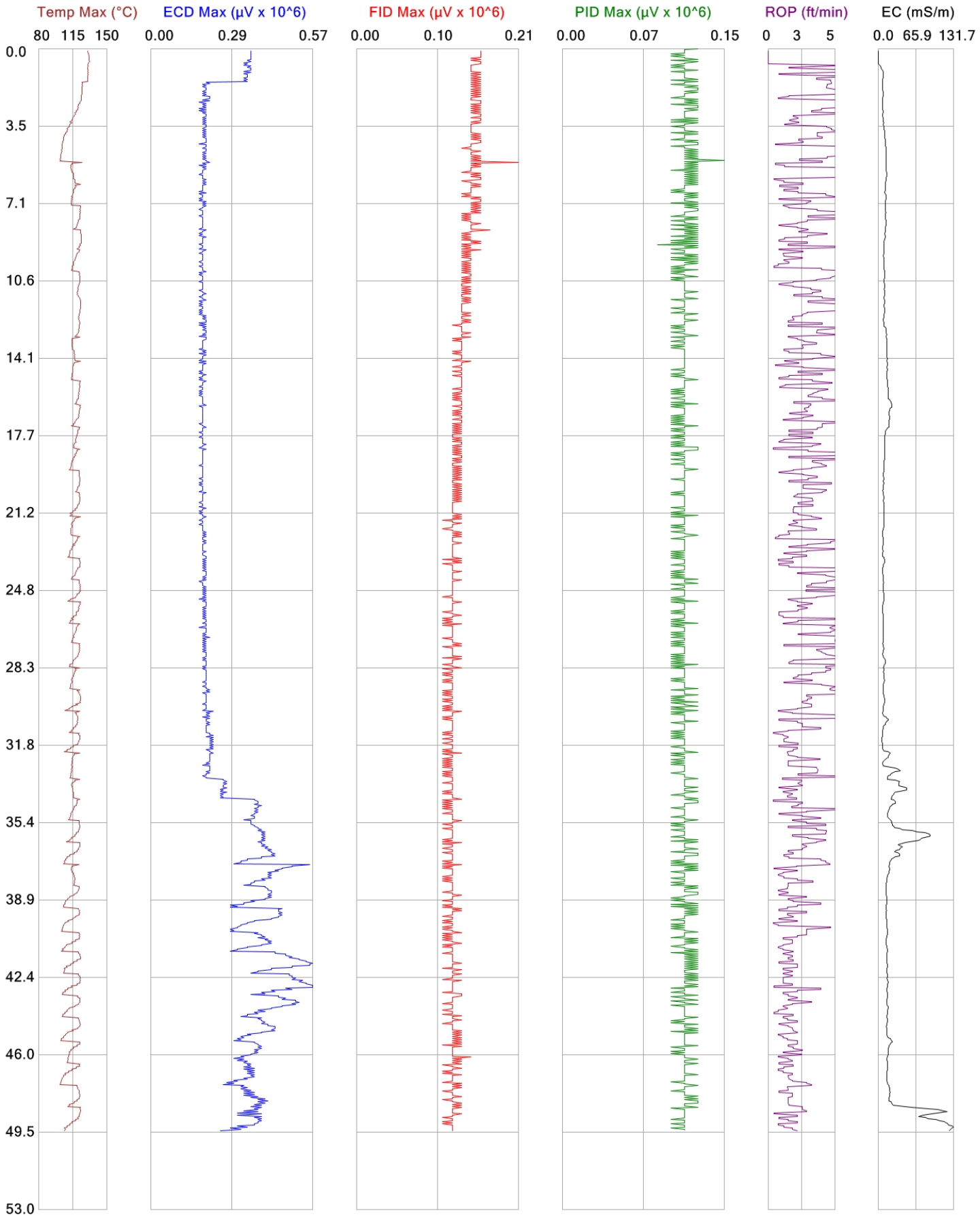
COLUMBIA TECHNOLOGIES

	File: M-AF-61
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



COLUMBIA TECHNOLOGIES

	File: M-AF-62
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



COLUMBIA TECHNOLOGIES

	File: M-AF-68
Client: ARCADIS	Date: 11/12/2009
Project ID: Hunter Army Air Field Area 17	Location:

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: Hunter H17

Project Number: GP08HAFS.H17B.DGOFI

Lot Number: LB12007

Date Completed: 02/17/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

LB12007

Case Narrative
ARCADIS U.S., Inc.
Lot Number: LB12007

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The LCSD recovery for Dichlorodifluoromethane and Trichlorofluoromethane was outside method control limits in batch 27687. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for five analytes exceeded method control limits in batch 27687; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCSD recovery for Dichlorodifluoromethane was outside method control limits in batch 27741. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The MS/MSD recoveries in batch 27741 were outside acceptance criteria. All other QA/QC criteria for the batch were within acceptance criteria and method control limits. The MS/MSD recovery results are attributed to matrix interference. The associated sample results were reported and no corrective action was required

Sample Summary

ARCADIS U.S., Inc.

Lot Number: LB12007

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	AF-56 (2-10-10)	Aqueous	02/10/2010 0859	02/12/2010
002	AF-69 (2-10-10)	Aqueous	02/10/2010 0955	02/12/2010
003	AF-14 (2-10-10)	Aqueous	02/10/2010 1043	02/12/2010
004	AF-23 (2-10-10)	Aqueous	02/10/2010 1120	02/12/2010
005	AF-13 (2-10-10)	Aqueous	02/10/2010 1210	02/12/2010
006	AF-55 (2-10-10)	Aqueous	02/10/2010 1240	02/12/2010
007	AF-54 (2-10-10)	Aqueous	02/10/2010 1302	02/12/2010
008	AF-68 (2-10-10)	Aqueous	02/10/2010 1347	02/12/2010
009	AF-57 (2-10-10)	Aqueous	02/10/2010 1442	02/12/2010
010	DUP-1	Aqueous	02/10/2010	02/12/2010
011	AF-41 (2-10-10)	Aqueous	02/10/2010 1552	02/12/2010
012	AF-58 (2-11-10)	Aqueous	02/11/2010 0837	02/12/2010
013	AF-35 (2-11-10)	Aqueous	02/11/2010 0940	02/12/2010
014	AF-25 (2-11-10)	Aqueous	02/11/2010 1027	02/12/2010
015	AF-26 (2-11-10)	Aqueous	02/11/2010 1049	02/12/2010
016	MW-12S (2-11-10)	Aqueous	02/11/2010 1319	02/12/2010
017	MW-12D (2-11-10)	Aqueous	02/11/2010 1330	02/12/2010
018	MW-7D (2-11-10)	Aqueous	02/11/2010 1423	02/12/2010
019	MW-7S (2-11-10)	Aqueous	02/11/2010 1437	02/12/2010
020	MW-2S(2-11-10)	Aqueous	02/11/2010 1646	02/12/2010
021	MW-2D (2-11-10)	Aqueous	02/11/2010 1652	02/12/2010
022	Trip Blank	Aqueous	02/11/2010	02/12/2010
023	MW-3S	Aqueous	02/11/2010 1548	02/12/2010
024	MW-3D	Aqueous	02/11/2010 1552	02/12/2010

(24 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: LB12007

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	AF-56 (2-10-10)	Aqueous	Benzene	8260B	3.2		ug/L	6
001	AF-56 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	15		ug/L	6
001	AF-56 (2-10-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.7	J	ug/L	6
001	AF-56 (2-10-10)	Aqueous	Toluene	8260B	1.3	J	ug/L	6
001	AF-56 (2-10-10)	Aqueous	Trichloroethene	8260B	1100		ug/L	7
002	AF-69 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	8
002	AF-69 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	3.4		ug/L	8
002	AF-69 (2-10-10)	Aqueous	Trichloroethene	8260B	66		ug/L	9
003	AF-14 (2-10-10)	Aqueous	Acetone	8260B	18		ug/L	10
004	AF-23 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	12
004	AF-23 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.16	J	ug/L	12
005	AF-13 (2-10-10)	Aqueous	Benzene	8260B	0.25	J	ug/L	14
005	AF-13 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.65		ug/L	14
006	AF-55 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	16
006	AF-55 (2-10-10)	Aqueous	Benzene	8260B	0.94		ug/L	16
006	AF-55 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	2.3		ug/L	16
006	AF-55 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	0.90		ug/L	16
006	AF-55 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	16
006	AF-55 (2-10-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.24	J	ug/L	16
006	AF-55 (2-10-10)	Aqueous	Trichloroethene	8260B	170		ug/L	17
006	AF-55 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.19	J	ug/L	17
007	AF-54 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	18
007	AF-54 (2-10-10)	Aqueous	Benzene	8260B	0.19	J	ug/L	18
007	AF-54 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.24	J	ug/L	18
007	AF-54 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	1.1		ug/L	18
007	AF-54 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	52		ug/L	18
007	AF-54 (2-10-10)	Aqueous	Trichloroethene	8260B	270		ug/L	19
007	AF-54 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.074	J	ug/L	19
008	AF-68 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	20
008	AF-68 (2-10-10)	Aqueous	Benzene	8260B	1.7		ug/L	20
008	AF-68 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	1.4		ug/L	20
008	AF-68 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	1.5		ug/L	20
008	AF-68 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	79		ug/L	20
008	AF-68 (2-10-10)	Aqueous	Trichloroethene	8260B	410		ug/L	21
008	AF-68 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.15	J	ug/L	21
009	AF-57 (2-10-10)	Aqueous	Acetone	8260B	18		ug/L	22
009	AF-57 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.47	J	ug/L	22
010	DUP-1	Aqueous	Acetone	8260B	18		ug/L	24
010	DUP-1	Aqueous	Benzene	8260B	0.93		ug/L	24
010	DUP-1	Aqueous	trans-1,2-Dichloroethene	8260B	2.3		ug/L	24
010	DUP-1	Aqueous	1,1-Dichloroethene	8260B	0.86		ug/L	24
010	DUP-1	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	24
010	DUP-1	Aqueous	Trichloroethene	8260B	170		ug/L	25
010	DUP-1	Aqueous	Vinyl chloride	8260B	0.15	J	ug/L	25
011	AF-41 (2-10-10)	Aqueous	Acetone	8260B	1.1	J	ug/L	26

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
011	AF-41 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.24	J	ug/L	26
011	AF-41 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	0.89		ug/L	26
011	AF-41 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	48		ug/L	26
011	AF-41 (2-10-10)	Aqueous	Trichloroethene	8260B	46		ug/L	27
012	AF-58 (2-11-10)	Aqueous	Acetone	8260B	2.4	J	ug/L	28
012	AF-58 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.93		ug/L	28
012	AF-58 (2-11-10)	Aqueous	1,1-Dichloroethene	8260B	1.4		ug/L	28
012	AF-58 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	28
012	AF-58 (2-11-10)	Aqueous	Trichloroethene	8260B	270		ug/L	29
012	AF-58 (2-11-10)	Aqueous	Vinyl chloride	8260B	0.35	J	ug/L	29
013	AF-35 (2-11-10)	Aqueous	Benzene	8260B	0.12	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.84		ug/L	30
013	AF-35 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	14		ug/L	30
013	AF-35 (2-11-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.096	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	Toluene	8260B	0.33	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	Trichloroethene	8260B	2.1		ug/L	31
014	AF-25 (2-11-10)	Aqueous	Benzene	8260B	0.37	J	ug/L	32
014	AF-25 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.56		ug/L	32
014	AF-25 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	24		ug/L	32
014	AF-25 (2-11-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.2		ug/L	32
014	AF-25 (2-11-10)	Aqueous	Trichloroethene	8260B	77		ug/L	33
016	MW-12S (2-11-10)	Aqueous	Acetone	8260B	1.5	J	ug/L	36
018	MW-7D (2-11-10)	Aqueous	Acetone	8260B	2.0	J	ug/L	40
019	MW-7S (2-11-10)	Aqueous	Acetone	8260B	17		ug/L	42
020	MW-2S(2-11-10)	Aqueous	Acetone	8260B	1.1	J	ug/L	44
021	MW-2D (2-11-10)	Aqueous	Acetone	8260B	17		ug/L	46
022	Trip Blank	Aqueous	Acetone	8260B	17		ug/L	48
023	MW-3S	Aqueous	Acetone	8260B	17		ug/L	50
024	MW-3D	Aqueous	Acetone	8260B	18		ug/L	52

(74 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AF-56 (2-10-10)
Date Sampled: 02/10/2010 0859
Date Received: 02/12/2010

Laboratory ID: LB12007-001
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/15/2010 2341	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		50	0.31	ug/L	1
Benzene	71-43-2	8260B	3.2		2.5	0.14	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		2.5	0.85	ug/L	1
Bromoform	75-25-2	8260B	ND		2.5	0.051	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.5	1.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		2.5	0.49	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		2.5	0.43	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		2.5	0.85	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.5	0.85	ug/L	1
Chloroform	67-66-3	8260B	ND		2.5	0.85	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.5	0.87	ug/L	1
Cyclohexane	110-82-7	8260B	ND		2.5	1.5	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.5	0.35	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		2.5	0.85	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.5	0.31	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.5	0.85	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.5	0.85	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.5	0.85	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.5	0.35	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.5	0.27	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.5	0.12	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.5	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.5	0.47	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	15		2.5	0.44	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.5	0.41	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.5	0.90	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.5	0.45	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		2.5	0.85	ug/L	1
2-Hexanone	591-78-6	8260B	ND		50	1.4	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		2.5	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	1.5	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	1.7	J	2.5	0.095	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	1.6	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		25	4.8	ug/L	1
Methylene chloride	75-09-2	8260B	ND		2.5	0.85	ug/L	1
Styrene	100-42-5	8260B	ND		2.5	0.075	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.5	0.065	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		2.5	0.072	ug/L	1
Toluene	108-88-3	8260B	1.3	J	2.5	0.85	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.5	1.5	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.5	0.85	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.5	0.14	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.5	0.16	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-001
Description: AF-56 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 0859
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/15/2010 2341	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	1100		2.5	0.12	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.5	0.25	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.5	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		2.5	0.85	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		114	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-002
Description: AF-69 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 0955
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1928	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	3.4		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-002
Description: AF-69 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 0955
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1928	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	66		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-003
Description: AF-14 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1043
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1950	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-003
Description: AF-14 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1043
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1950	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-004
Description: AF-23 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1120
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/16/2010 0456	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	2
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	2
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	2
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	2
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	2
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	2
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	2
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	2
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	2
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	2
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	2
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	2
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	2
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	2
cis-1,2-Dichloroethene	156-59-2	8260B	0.16	J	0.50	0.087	ug/L	2
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	2
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	2
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	2
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	2
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	2
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	2
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	2
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	2
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-004
Description: AF-23 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1120
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/16/2010 0456	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	2
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-005
Description: AF-13 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1210
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2012	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.25	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.65		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-005
Description: AF-13 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1210
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2012	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AF-55 (2-10-10)
Date Sampled: 02/10/2010 1240
Date Received: 02/12/2010

Laboratory ID: LB12007-006
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2034	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.94		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	2.3		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.90		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	110		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	0.24	J	0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-006
Description: AF-55 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1240
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2034	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	170		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	0.19	J	0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-007
Description: AF-54 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1302
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2056	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.19	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	0.24	J	0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	1.1		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	52		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-007
Description: AF-54 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1302
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2056	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	270		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	0.074	J	0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-008
Description: AF-68 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1347
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2118	RRH		27697
2	5030B	8260B	2	02/16/2010 1522	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	1.7		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	1.4		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	1.5		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	79		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-008
Description: AF-68 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1347
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2118	RRH		27697
2	5030B	8260B	2	02/16/2010 1522	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	410		1.0	0.049	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	0.15	J	0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		117	70-130
Bromofluorobenzene		99	70-130		116	70-130
Toluene-d8		102	70-130		111	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-009
Description: AF-57 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1442
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2140	RRH		27697
2	5030B	8260B	1	02/16/2010 0033	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.47	J	0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-009
Description: AF-57 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1442
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2140	RRH		27697
2	5030B	8260B	1	02/16/2010 0033	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		98	70-130
Bromofluorobenzene		99	70-130		99	70-130
Toluene-d8		103	70-130		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-010
Description: DUP-1
Matrix: Aqueous
Date Sampled: 02/10/2010
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2202	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.93		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	2.3		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.86		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	110		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-010
Description: DUP-1
Matrix: Aqueous
Date Sampled: 02/10/2010
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2202	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	170		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	0.15	J	0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-011
Description: AF-41 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1552
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1020	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.1	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	0.24	J	0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.89		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	48		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-011
Description: AF-41 (2-10-10)
Matrix: Aqueous
Date Sampled: 02/10/2010 1552
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1020	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	46		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		116	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-012
Description: AF-58 (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 0837
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/17/2010 0025	RRH		27733

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.4	J	10	0.061	ug/L	2
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	2
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	2
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	2
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	2
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	2
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	2
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	2
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	2
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	2
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	2
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	2
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260B	0.93		0.50	0.079	ug/L	2
1,1-Dichloroethene	75-35-4	8260B	1.4		0.50	0.094	ug/L	2
cis-1,2-Dichloroethene	156-59-2	8260B	110		0.50	0.087	ug/L	2
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	2
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	2
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	2
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	2
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	2
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	2
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	2
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	2
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-012
Description: AF-58 (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 0837
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/17/2010 0025	RRH		27733

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	270		0.50	0.024	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	2
Vinyl chloride	75-01-4	8260B	0.35	J	0.50	0.065	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		115	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AF-35 (2-11-10)
Date Sampled: 02/11/2010 0940
Date Received: 02/12/2010

Laboratory ID: LB12007-013
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2016	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.12	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	0.84		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	14		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	0.096	J	0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	0.33	J	0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-013
Description: AF-35 (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 0940
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2016	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	2.1		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		117	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AF-25 (2-11-10)
Date Sampled: 02/11/2010 1027
Date Received: 02/12/2010

Laboratory ID: LB12007-014
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2039	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.37	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	0.56		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	24		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	1.2		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-014
Description: AF-25 (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1027
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2039	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	77		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		119	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AF-26 (2-11-10)
Date Sampled: 02/11/2010 1049
Date Received: 02/12/2010

Laboratory ID: LB12007-015
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2102	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-015
Description: AF-26 (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1049
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2102	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		120	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-016
Description: MW-12S (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1319
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2125	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.5	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-016
Description: MW-12S (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1319
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2125	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		118	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: MW-12D (2-11-10)
Date Sampled: 02/11/2010 1330
Date Received: 02/12/2010

Laboratory ID: LB12007-017
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2147	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-017
Description: MW-12D (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1330
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2147	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		115	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: MW-7D (2-11-10)
Date Sampled: 02/11/2010 1423
Date Received: 02/12/2010

Laboratory ID: LB12007-018
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2210	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.0	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-018
Description: MW-7D (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1423
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2210	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		121	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-019
Description: MW-7S (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1437
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0055	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-019
Description: MW-7S (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1437
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0055	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-020
Description: MW-2S(2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1646
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1041	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.1	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-020
Description: MW-2S(2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1646
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1041	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		116	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-021
Description: MW-2D (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1652
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0117	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-021
Description: MW-2D (2-11-10)
Matrix: Aqueous
Date Sampled: 02/11/2010 1652
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0117	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-022
Description: Trip Blank
Matrix: Aqueous
Date Sampled: 02/11/2010
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0138	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-022
Description: Trip Blank
Matrix: Aqueous
Date Sampled: 02/11/2010
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0138	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-023
Description: MW-3S
Matrix: Aqueous
Date Sampled: 02/11/2010 1548
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0200	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	17		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-023
Description: MW-3S
Matrix: Aqueous
Date Sampled: 02/11/2010 1548
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0200	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-024
Description: MW-3D
Matrix: Aqueous
Date Sampled: 02/11/2010 1552
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0223	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB12007-024
Description: MW-3D
Matrix: Aqueous
Date Sampled: 02/11/2010 1552
Date Received: 02/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 0223	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27687-001
Batch: 27687
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/15/2010 1712
Benzene	ND		1	0.50	0.027	ug/L	02/15/2010 1712
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Bromoform	ND		1	0.50	0.010	ug/L	02/15/2010 1712
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/15/2010 1712
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/15/2010 1712
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/15/2010 1712
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/15/2010 1712
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Chloroethane	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Chloroform	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Cyclohexane	ND		1	0.50	0.30	ug/L	02/15/2010 1712
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/15/2010 1712
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/15/2010 1712
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/15/2010 1712
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/15/2010 1712
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/15/2010 1712
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/15/2010 1712
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/15/2010 1712
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/15/2010 1712
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/15/2010 1712
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/15/2010 1712
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/15/2010 1712
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/15/2010 1712
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
2-Hexanone	ND		1	10	0.27	ug/L	02/15/2010 1712
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/15/2010 1712
Methyl acetate	ND		1	1.0	0.30	ug/L	02/15/2010 1712
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/15/2010 1712
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/15/2010 1712
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/15/2010 1712
Methylene chloride	ND		1	0.50	0.17	ug/L	02/15/2010 1712
Styrene	ND		1	0.50	0.015	ug/L	02/15/2010 1712
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/15/2010 1712
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/15/2010 1712
Toluene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/15/2010 1712
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 1712
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/15/2010 1712
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/15/2010 1712

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27687-001
Batch: 27687
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/15/2010 1712
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/15/2010 1712
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/15/2010 1712
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/15/2010 1712

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27687-002
Batch: 27687
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	97		1	97	46-153	02/15/2010 1530
Benzene	50	47		1	93	70-130	02/15/2010 1530
Bromodichloromethane	50	55		1	110	70-130	02/15/2010 1530
Bromoform	50	47		1	95	70-130	02/15/2010 1530
Bromomethane (Methyl bromide)	50	41		1	82	60-140	02/15/2010 1530
2-Butanone (MEK)	100	100		1	102	60-140	02/15/2010 1530
Carbon disulfide	50	49		1	99	60-140	02/15/2010 1530
Carbon tetrachloride	50	60		1	120	70-130	02/15/2010 1530
Chlorobenzene	50	47		1	93	70-130	02/15/2010 1530
Chloroethane	50	42		1	85	42-163	02/15/2010 1530
Chloroform	50	53		1	105	70-130	02/15/2010 1530
Chloromethane (Methyl chloride)	50	45		1	90	20-158	02/15/2010 1530
Cyclohexane	50	53		1	106	70-130	02/15/2010 1530
1,2-Dibromo-3-chloropropane (DBCP)	50	47		1	94	70-130	02/15/2010 1530
Dibromochloromethane	50	53		1	106	70-130	02/15/2010 1530
1,2-Dibromoethane (EDB)	50	48		1	95	70-130	02/15/2010 1530
1,4-Dichlorobenzene	50	42		1	85	70-130	02/15/2010 1530
1,2-Dichlorobenzene	50	45		1	89	70-130	02/15/2010 1530
1,3-Dichlorobenzene	50	43		1	87	70-130	02/15/2010 1530
Dichlorodifluoromethane	50	37		1	75	60-140	02/15/2010 1530
1,1-Dichloroethane	50	50		1	100	70-130	02/15/2010 1530
1,2-Dichloroethane	50	54		1	107	70-130	02/15/2010 1530
1,1-Dichloroethene	50	50		1	99	70-130	02/15/2010 1530
trans-1,2-Dichloroethene	50	49		1	97	70-130	02/15/2010 1530
cis-1,2-Dichloroethene	50	48		1	95	70-130	02/15/2010 1530
1,2-Dichloropropane	50	48		1	96	70-130	02/15/2010 1530
trans-1,3-Dichloropropene	50	50		1	100	70-130	02/15/2010 1530
cis-1,3-Dichloropropene	50	52		1	104	70-130	02/15/2010 1530
Ethylbenzene	50	47		1	93	70-130	02/15/2010 1530
2-Hexanone	100	100		1	105	60-140	02/15/2010 1530
Isopropylbenzene	50	48		1	96	70-130	02/15/2010 1530
Methyl acetate	50	47		1	93	15-128	02/15/2010 1530
Methyl tertiary butyl ether (MTBE)	50	50		1	100	70-130	02/15/2010 1530
4-Methyl-2-pentanone	100	100		1	105	60-140	02/15/2010 1530
Methylcyclohexane	50	53		1	106	70-130	02/15/2010 1530
Methylene chloride	50	48		1	96	70-130	02/15/2010 1530
Styrene	50	49		1	99	70-130	02/15/2010 1530
1,1,2,2-Tetrachloroethane	50	44		1	88	70-130	02/15/2010 1530
Tetrachloroethene	50	49		1	97	70-130	02/15/2010 1530
Toluene	50	50		1	99	70-130	02/15/2010 1530
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	60		1	121	70-130	02/15/2010 1530
1,2,4-Trichlorobenzene	50	45		1	89	70-130	02/15/2010 1530
1,1,2-Trichloroethane	50	46		1	92	70-130	02/15/2010 1530
1,1,1-Trichloroethane	50	56		1	111	70-130	02/15/2010 1530

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27687-002
Batch: 27687
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	51		1	102	70-130	02/15/2010 1530
Trichlorofluoromethane	50	42		1	85	60-140	02/15/2010 1530
Vinyl chloride	50	45		1	90	60-140	02/15/2010 1530
Xylenes (total)	100	95		1	95	70-130	02/15/2010 1530

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27687-003
Batch: 27687
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	97		1	97	0.24	46-153	20	02/15/2010 1421
Benzene	50	46		1	92	1.7	70-130	20	02/15/2010 1421
Bromodichloromethane	50	51		1	103	6.9	70-130	20	02/15/2010 1421
Bromoform	50	45		1	89	5.8	70-130	20	02/15/2010 1421
Bromomethane (Methyl bromide)	50	40		1	81	1.0	60-140	20	02/15/2010 1421
2-Butanone (MEK)	100	100		1	104	1.9	60-140	20	02/15/2010 1421
Carbon disulfide	50	45		1	90	8.7	60-140	20	02/15/2010 1421
Carbon tetrachloride	50	47	+	1	94	24	70-130	20	02/15/2010 1421
Chlorobenzene	50	44		1	88	6.1	70-130	20	02/15/2010 1421
Chloroethane	50	41		1	82	3.3	42-163	20	02/15/2010 1421
Chloroform	50	49		1	97	8.2	70-130	20	02/15/2010 1421
Chloromethane (Methyl chloride)	50	39		1	78	15	20-158	20	02/15/2010 1421
Cyclohexane	50	41	+	1	83	25	70-130	20	02/15/2010 1421
1,2-Dibromo-3-chloropropane (DBCP)	50	48		1	95	1.6	70-130	20	02/15/2010 1421
Dibromochloromethane	50	50		1	100	6.1	70-130	20	02/15/2010 1421
1,2-Dibromoethane (EDB)	50	46		1	92	3.7	70-130	20	02/15/2010 1421
1,4-Dichlorobenzene	50	41		1	83	2.1	70-130	20	02/15/2010 1421
1,2-Dichlorobenzene	50	43		1	87	2.9	70-130	20	02/15/2010 1421
1,3-Dichlorobenzene	50	43		1	85	2.2	70-130	20	02/15/2010 1421
Dichlorodifluoromethane	50	26	N,+	1	52	35	60-140	20	02/15/2010 1421
1,1-Dichloroethane	50	48		1	96	4.3	70-130	20	02/15/2010 1421
1,2-Dichloroethane	50	49		1	97	10	70-130	20	02/15/2010 1421
1,1-Dichloroethene	50	44		1	89	11	70-130	20	02/15/2010 1421
trans-1,2-Dichloroethene	50	46		1	92	5.6	70-130	20	02/15/2010 1421
cis-1,2-Dichloroethene	50	47		1	93	1.8	70-130	20	02/15/2010 1421
1,2-Dichloropropane	50	47		1	94	2.3	70-130	20	02/15/2010 1421
trans-1,3-Dichloropropene	50	48		1	95	5.2	70-130	20	02/15/2010 1421
cis-1,3-Dichloropropene	50	51		1	101	2.6	70-130	20	02/15/2010 1421
Ethylbenzene	50	43		1	86	7.9	70-130	20	02/15/2010 1421
2-Hexanone	100	97		1	97	7.4	60-140	20	02/15/2010 1421
Isopropylbenzene	50	45		1	90	6.8	70-130	20	02/15/2010 1421
Methyl acetate	50	45		1	91	2.4	15-128	20	02/15/2010 1421
Methyl tertiary butyl ether (MTBE)	50	50		1	100	0.20	70-130	20	02/15/2010 1421
4-Methyl-2-pentanone	100	100		1	101	3.2	60-140	20	02/15/2010 1421
Methylcyclohexane	50	44		1	89	17	70-130	20	02/15/2010 1421
Methylene chloride	50	48		1	96	0.23	70-130	20	02/15/2010 1421
Styrene	50	47		1	93	5.8	70-130	20	02/15/2010 1421
1,1,2,2-Tetrachloroethane	50	46		1	92	4.5	70-130	20	02/15/2010 1421
Tetrachloroethene	50	43		1	86	12	70-130	20	02/15/2010 1421
Toluene	50	47		1	94	5.7	70-130	20	02/15/2010 1421
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	46	+	1	93	26	70-130	20	02/15/2010 1421
1,2,4-Trichlorobenzene	50	43		1	86	3.6	70-130	20	02/15/2010 1421
1,1,2-Trichloroethane	50	45		1	90	2.8	70-130	20	02/15/2010 1421
1,1,1-Trichloroethane	50	46		1	93	18	70-130	20	02/15/2010 1421

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27687-003
Batch: 27687
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	47		1	94	8.2	70-130	20	02/15/2010 1421
Trichlorofluoromethane	50	28	N,+	1	56	41	60-140	20	02/15/2010 1421
Vinyl chloride	50	39		1	77	15	60-140	20	02/15/2010 1421
Xylenes (total)	100	87		1	87	8.8	70-130	20	02/15/2010 1421

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		109	70-130
1,2-Dichloroethane-d4		80	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27697-001
Batch: 27697
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/13/2010 1640
Benzene	ND		1	0.50	0.027	ug/L	02/13/2010 1640
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Bromoform	ND		1	0.50	0.010	ug/L	02/13/2010 1640
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/13/2010 1640
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/13/2010 1640
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/13/2010 1640
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/13/2010 1640
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Chloroethane	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Chloroform	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Cyclohexane	ND		1	0.50	0.30	ug/L	02/13/2010 1640
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/13/2010 1640
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/13/2010 1640
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/13/2010 1640
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/13/2010 1640
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/13/2010 1640
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/13/2010 1640
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/13/2010 1640
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/13/2010 1640
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/13/2010 1640
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/13/2010 1640
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/13/2010 1640
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/13/2010 1640
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
2-Hexanone	ND		1	10	0.27	ug/L	02/13/2010 1640
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/13/2010 1640
Methyl acetate	ND		1	1.0	0.30	ug/L	02/13/2010 1640
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/13/2010 1640
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/13/2010 1640
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/13/2010 1640
Methylene chloride	ND		1	0.50	0.17	ug/L	02/13/2010 1640
Styrene	ND		1	0.50	0.015	ug/L	02/13/2010 1640
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/13/2010 1640
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/13/2010 1640
Toluene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/13/2010 1640
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/13/2010 1640
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/13/2010 1640
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/13/2010 1640

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27697-001
Batch: 27697
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/13/2010 1640
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/13/2010 1640
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/13/2010 1640
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/13/2010 1640

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27697-002
Batch: 27697
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	96		1	96	46-153	02/13/2010 1513
Benzene	50	47		1	94	70-130	02/13/2010 1513
Bromodichloromethane	50	48		1	97	70-130	02/13/2010 1513
Bromoform	50	45		1	90	70-130	02/13/2010 1513
Bromomethane (Methyl bromide)	50	51		1	103	60-140	02/13/2010 1513
2-Butanone (MEK)	100	88		1	88	60-140	02/13/2010 1513
Carbon disulfide	50	49		1	98	60-140	02/13/2010 1513
Carbon tetrachloride	50	47		1	93	70-130	02/13/2010 1513
Chlorobenzene	50	46		1	92	70-130	02/13/2010 1513
Chloroethane	50	53		1	106	42-163	02/13/2010 1513
Chloroform	50	49		1	98	70-130	02/13/2010 1513
Chloromethane (Methyl chloride)	50	46		1	91	20-158	02/13/2010 1513
Cyclohexane	50	47		1	94	70-130	02/13/2010 1513
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	92	70-130	02/13/2010 1513
Dibromochloromethane	50	51		1	103	70-130	02/13/2010 1513
1,2-Dibromoethane (EDB)	50	47		1	95	70-130	02/13/2010 1513
1,4-Dichlorobenzene	50	44		1	87	70-130	02/13/2010 1513
1,3-Dichlorobenzene	50	45		1	90	70-130	02/13/2010 1513
1,2-Dichlorobenzene	50	47		1	94	70-130	02/13/2010 1513
Dichlorodifluoromethane	50	36		1	71	60-140	02/13/2010 1513
1,2-Dichloroethane	50	49		1	97	70-130	02/13/2010 1513
1,1-Dichloroethane	50	47		1	93	70-130	02/13/2010 1513
cis-1,2-Dichloroethene	50	48		1	97	70-130	02/13/2010 1513
trans-1,2-Dichloroethene	50	46		1	92	70-130	02/13/2010 1513
1,1-Dichloroethene	50	47		1	94	70-130	02/13/2010 1513
1,2-Dichloropropane	50	45		1	90	70-130	02/13/2010 1513
cis-1,3-Dichloropropene	50	47		1	93	70-130	02/13/2010 1513
trans-1,3-Dichloropropene	50	49		1	98	70-130	02/13/2010 1513
Ethylbenzene	50	46		1	91	70-130	02/13/2010 1513
2-Hexanone	100	84		1	84	60-140	02/13/2010 1513
Isopropylbenzene	50	48		1	97	70-130	02/13/2010 1513
Methyl acetate	50	45		1	90	15-128	02/13/2010 1513
Methyl tertiary butyl ether (MTBE)	50	56		1	111	70-130	02/13/2010 1513
4-Methyl-2-pentanone	100	92		1	92	60-140	02/13/2010 1513
Methylcyclohexane	50	46		1	92	70-130	02/13/2010 1513
Methylene chloride	50	55		1	109	70-130	02/13/2010 1513
Styrene	50	46		1	92	70-130	02/13/2010 1513
1,1,2,2-Tetrachloroethane	50	46		1	92	70-130	02/13/2010 1513
Tetrachloroethene	50	46		1	92	70-130	02/13/2010 1513
Toluene	50	45		1	89	70-130	02/13/2010 1513
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	46		1	92	70-130	02/13/2010 1513
1,2,4-Trichlorobenzene	50	49		1	98	70-130	02/13/2010 1513
1,1,2-Trichloroethane	50	46		1	92	70-130	02/13/2010 1513
1,1,1-Trichloroethane	50	47		1	94	70-130	02/13/2010 1513

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27697-002
Batch: 27697
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	46		1	91	70-130	02/13/2010 1513
Trichlorofluoromethane	50	40		1	80	60-140	02/13/2010 1513
Vinyl chloride	50	40		1	79	60-140	02/13/2010 1513
Xylenes (total)	100	94		1	94	70-130	02/13/2010 1513

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27697-003
Batch: 27697
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	97		1	97	1.0	46-153	20	02/13/2010 1534
Benzene	50	46		1	92	2.4	70-130	20	02/13/2010 1534
Bromodichloromethane	50	48		1	96	0.61	70-130	20	02/13/2010 1534
Bromoform	50	47		1	93	2.9	70-130	20	02/13/2010 1534
Bromomethane (Methyl bromide)	50	48		1	95	7.8	60-140	20	02/13/2010 1534
2-Butanone (MEK)	100	90		1	90	2.3	60-140	20	02/13/2010 1534
Carbon disulfide	50	44		1	88	10	60-140	20	02/13/2010 1534
Carbon tetrachloride	50	45		1	89	4.6	70-130	20	02/13/2010 1534
Chlorobenzene	50	46		1	92	0.63	70-130	20	02/13/2010 1534
Chloroethane	50	47		1	93	12	42-163	20	02/13/2010 1534
Chloroform	50	46		1	93	5.4	70-130	20	02/13/2010 1534
Chloromethane (Methyl chloride)	50	42		1	84	8.1	20-158	20	02/13/2010 1534
Cyclohexane	50	45		1	90	3.8	70-130	20	02/13/2010 1534
1,2-Dibromo-3-chloropropane (DBCP)	50	44		1	89	3.3	70-130	20	02/13/2010 1534
Dibromochloromethane	50	51		1	102	0.59	70-130	20	02/13/2010 1534
1,2-Dibromoethane (EDB)	50	49		1	99	4.1	70-130	20	02/13/2010 1534
1,4-Dichlorobenzene	50	44		1	89	2.0	70-130	20	02/13/2010 1534
1,3-Dichlorobenzene	50	46		1	91	1.2	70-130	20	02/13/2010 1534
1,2-Dichlorobenzene	50	45		1	91	3.2	70-130	20	02/13/2010 1534
Dichlorodifluoromethane	50	32		1	65	9.8	60-140	20	02/13/2010 1534
1,2-Dichloroethane	50	47		1	95	2.7	70-130	20	02/13/2010 1534
1,1-Dichloroethane	50	43		1	87	7.1	70-130	20	02/13/2010 1534
cis-1,2-Dichloroethene	50	45		1	90	7.2	70-130	20	02/13/2010 1534
trans-1,2-Dichloroethene	50	43		1	86	7.2	70-130	20	02/13/2010 1534
1,1-Dichloroethene	50	43		1	87	7.7	70-130	20	02/13/2010 1534
1,2-Dichloropropane	50	45		1	90	0.15	70-130	20	02/13/2010 1534
cis-1,3-Dichloropropene	50	49		1	97	4.5	70-130	20	02/13/2010 1534
trans-1,3-Dichloropropene	50	51		1	103	4.7	70-130	20	02/13/2010 1534
Ethylbenzene	50	46		1	92	1.1	70-130	20	02/13/2010 1534
2-Hexanone	100	92		1	92	9.3	60-140	20	02/13/2010 1534
Isopropylbenzene	50	47		1	95	1.8	70-130	20	02/13/2010 1534
Methyl acetate	50	43		1	87	3.7	15-128	20	02/13/2010 1534
Methyl tertiary butyl ether (MTBE)	50	49		1	97	14	70-130	20	02/13/2010 1534
4-Methyl-2-pentanone	100	92		1	92	0.17	60-140	20	02/13/2010 1534
Methylcyclohexane	50	43		1	87	5.7	70-130	20	02/13/2010 1534
Methylene chloride	50	50		1	99	9.7	70-130	20	02/13/2010 1534
Styrene	50	47		1	93	1.3	70-130	20	02/13/2010 1534
1,1,2,2-Tetrachloroethane	50	46		1	92	0.21	70-130	20	02/13/2010 1534
Tetrachloroethene	50	46		1	92	0.44	70-130	20	02/13/2010 1534
Toluene	50	46		1	92	3.7	70-130	20	02/13/2010 1534
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	43		1	85	8.0	70-130	20	02/13/2010 1534
1,2,4-Trichlorobenzene	50	45		1	91	7.2	70-130	20	02/13/2010 1534
1,1,2-Trichloroethane	50	47		1	94	2.3	70-130	20	02/13/2010 1534
1,1,1-Trichloroethane	50	45		1	90	5.2	70-130	20	02/13/2010 1534

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27697-003
Batch: 27697
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	45		1	89	2.2	70-130	20	02/13/2010 1534
Trichlorofluoromethane	50	37		1	74	7.3	60-140	20	02/13/2010 1534
Vinyl chloride	50	36		1	72	9.1	60-140	20	02/13/2010 1534
Xylenes (total)	100	93		1	93	1.4	70-130	20	02/13/2010 1534

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27733-001
Batch: 27733
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/16/2010 2319
Benzene	ND		1	0.50	0.027	ug/L	02/16/2010 2319
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Bromoform	ND		1	0.50	0.010	ug/L	02/16/2010 2319
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/16/2010 2319
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/16/2010 2319
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/16/2010 2319
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/16/2010 2319
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Chloroethane	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Chloroform	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Cyclohexane	ND		1	0.50	0.30	ug/L	02/16/2010 2319
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/16/2010 2319
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/16/2010 2319
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/16/2010 2319
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/16/2010 2319
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/16/2010 2319
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/16/2010 2319
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/16/2010 2319
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/16/2010 2319
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/16/2010 2319
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/16/2010 2319
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/16/2010 2319
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/16/2010 2319
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
2-Hexanone	ND		1	10	0.27	ug/L	02/16/2010 2319
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/16/2010 2319
Methyl acetate	ND		1	1.0	0.30	ug/L	02/16/2010 2319
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/16/2010 2319
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/16/2010 2319
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/16/2010 2319
Methylene chloride	ND		1	0.50	0.17	ug/L	02/16/2010 2319
Styrene	ND		1	0.50	0.015	ug/L	02/16/2010 2319
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/16/2010 2319
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/16/2010 2319
Toluene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/16/2010 2319
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 2319
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/16/2010 2319
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/16/2010 2319

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27733-001
Batch: 27733
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/16/2010 2319
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/16/2010 2319
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/16/2010 2319
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/16/2010 2319

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27733-002
Batch: 27733
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	98		1	98	46-153	02/16/2010 2154
Benzene	50	54		1	108	70-130	02/16/2010 2154
Bromodichloromethane	50	47		1	94	70-130	02/16/2010 2154
Bromoform	50	61		1	122	70-130	02/16/2010 2154
Bromomethane (Methyl bromide)	50	58		1	116	60-140	02/16/2010 2154
2-Butanone (MEK)	100	98		1	98	60-140	02/16/2010 2154
Carbon disulfide	50	58		1	115	60-140	02/16/2010 2154
Carbon tetrachloride	50	49		1	98	70-130	02/16/2010 2154
Chlorobenzene	50	46		1	93	70-130	02/16/2010 2154
Chloroethane	50	55		1	109	42-163	02/16/2010 2154
Chloroform	50	46		1	91	70-130	02/16/2010 2154
Chloromethane (Methyl chloride)	50	50		1	100	20-158	02/16/2010 2154
Cyclohexane	50	44		1	88	70-130	02/16/2010 2154
1,2-Dibromo-3-chloropropane (DBCP)	50	56		1	112	70-130	02/16/2010 2154
Dibromochloromethane	50	53		1	105	70-130	02/16/2010 2154
1,2-Dibromoethane (EDB)	50	48		1	97	70-130	02/16/2010 2154
1,4-Dichlorobenzene	50	55		1	110	70-130	02/16/2010 2154
1,2-Dichlorobenzene	50	57		1	114	70-130	02/16/2010 2154
1,3-Dichlorobenzene	50	55		1	110	70-130	02/16/2010 2154
Dichlorodifluoromethane	50	47		1	94	60-140	02/16/2010 2154
1,1-Dichloroethane	50	45		1	90	70-130	02/16/2010 2154
1,2-Dichloroethane	50	45		1	89	70-130	02/16/2010 2154
trans-1,2-Dichloroethene	50	46		1	92	70-130	02/16/2010 2154
1,1-Dichloroethene	50	47		1	93	70-130	02/16/2010 2154
cis-1,2-Dichloroethene	50	54		1	108	70-130	02/16/2010 2154
1,2-Dichloropropane	50	45		1	89	70-130	02/16/2010 2154
cis-1,3-Dichloropropene	50	51		1	102	70-130	02/16/2010 2154
trans-1,3-Dichloropropene	50	54		1	107	70-130	02/16/2010 2154
Ethylbenzene	50	46		1	93	70-130	02/16/2010 2154
2-Hexanone	100	93		1	93	60-140	02/16/2010 2154
Isopropylbenzene	50	47		1	94	70-130	02/16/2010 2154
Methyl acetate	50	54		1	108	15-128	02/16/2010 2154
Methyl tertiary butyl ether (MTBE)	50	57		1	113	70-130	02/16/2010 2154
4-Methyl-2-pentanone	100	94		1	94	60-140	02/16/2010 2154
Methylcyclohexane	50	49		1	98	70-130	02/16/2010 2154
Methylene chloride	50	55		1	110	70-130	02/16/2010 2154
Styrene	50	49		1	99	70-130	02/16/2010 2154
1,1,2,2-Tetrachloroethane	50	47		1	95	70-130	02/16/2010 2154
Tetrachloroethene	50	53		1	107	70-130	02/16/2010 2154
Toluene	50	44		1	89	70-130	02/16/2010 2154
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	98	70-130	02/16/2010 2154
1,2,4-Trichlorobenzene	50	59		1	119	70-130	02/16/2010 2154
1,1,1-Trichloroethane	50	47		1	95	70-130	02/16/2010 2154
1,1,2-Trichloroethane	50	48		1	95	70-130	02/16/2010 2154

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27733-002
Batch: 27733
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	47		1	93	70-130	02/16/2010 2154
Trichlorofluoromethane	50	48		1	96	60-140	02/16/2010 2154
Vinyl chloride	50	44		1	88	60-140	02/16/2010 2154
Xylenes (total)	100	100		1	104	70-130	02/16/2010 2154

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27741-001
Batch: 27741
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/15/2010 2242
Benzene	ND		1	0.50	0.027	ug/L	02/15/2010 2242
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Bromoform	ND		1	0.50	0.010	ug/L	02/15/2010 2242
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/15/2010 2242
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/15/2010 2242
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/15/2010 2242
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/15/2010 2242
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Chloroethane	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Chloroform	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Cyclohexane	ND		1	0.50	0.30	ug/L	02/15/2010 2242
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/15/2010 2242
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/15/2010 2242
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/15/2010 2242
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/15/2010 2242
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/15/2010 2242
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/15/2010 2242
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/15/2010 2242
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/15/2010 2242
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/15/2010 2242
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/15/2010 2242
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/15/2010 2242
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/15/2010 2242
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
2-Hexanone	ND		1	10	0.27	ug/L	02/15/2010 2242
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/15/2010 2242
Methyl acetate	ND		1	1.0	0.30	ug/L	02/15/2010 2242
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/15/2010 2242
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/15/2010 2242
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/15/2010 2242
Methylene chloride	ND		1	0.50	0.17	ug/L	02/15/2010 2242
Styrene	ND		1	0.50	0.015	ug/L	02/15/2010 2242
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/15/2010 2242
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/15/2010 2242
Toluene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/15/2010 2242
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/15/2010 2242
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/15/2010 2242
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/15/2010 2242

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27741-001
Batch: 27741
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/15/2010 2242
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/15/2010 2242
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/15/2010 2242
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/15/2010 2242

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27741-002
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	94		1	94	46-153	02/15/2010 2115
Benzene	50	47		1	94	70-130	02/15/2010 2115
Bromodichloromethane	50	48		1	95	70-130	02/15/2010 2115
Bromoform	50	43		1	85	70-130	02/15/2010 2115
Bromomethane (Methyl bromide)	50	51		1	102	60-140	02/15/2010 2115
2-Butanone (MEK)	100	83		1	83	60-140	02/15/2010 2115
Carbon disulfide	50	49		1	99	60-140	02/15/2010 2115
Carbon tetrachloride	50	48		1	96	70-130	02/15/2010 2115
Chlorobenzene	50	47		1	93	70-130	02/15/2010 2115
Chloroethane	50	52		1	104	42-163	02/15/2010 2115
Chloroform	50	47		1	94	70-130	02/15/2010 2115
Chloromethane (Methyl chloride)	50	40		1	81	20-158	02/15/2010 2115
Cyclohexane	50	50		1	100	70-130	02/15/2010 2115
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	92	70-130	02/15/2010 2115
Dibromochloromethane	50	49		1	99	70-130	02/15/2010 2115
1,2-Dibromoethane (EDB)	50	47		1	93	70-130	02/15/2010 2115
1,4-Dichlorobenzene	50	46		1	92	70-130	02/15/2010 2115
1,3-Dichlorobenzene	50	48		1	95	70-130	02/15/2010 2115
1,2-Dichlorobenzene	50	49		1	98	70-130	02/15/2010 2115
Dichlorodifluoromethane	50	30		1	61	60-140	02/15/2010 2115
1,2-Dichloroethane	50	46		1	91	70-130	02/15/2010 2115
1,1-Dichloroethane	50	45		1	90	70-130	02/15/2010 2115
trans-1,2-Dichloroethene	50	46		1	93	70-130	02/15/2010 2115
cis-1,2-Dichloroethene	50	47		1	93	70-130	02/15/2010 2115
1,1-Dichloroethene	50	48		1	96	70-130	02/15/2010 2115
1,2-Dichloropropane	50	44		1	88	70-130	02/15/2010 2115
trans-1,3-Dichloropropene	50	49		1	98	70-130	02/15/2010 2115
cis-1,3-Dichloropropene	50	47		1	93	70-130	02/15/2010 2115
Ethylbenzene	50	47		1	95	70-130	02/15/2010 2115
2-Hexanone	100	82		1	82	60-140	02/15/2010 2115
Isopropylbenzene	50	53		1	107	70-130	02/15/2010 2115
Methyl acetate	50	44		1	87	15-128	02/15/2010 2115
Methyl tertiary butyl ether (MTBE)	50	50		1	101	70-130	02/15/2010 2115
4-Methyl-2-pentanone	100	89		1	89	60-140	02/15/2010 2115
Methylcyclohexane	50	48		1	97	70-130	02/15/2010 2115
Methylene chloride	50	51		1	103	70-130	02/15/2010 2115
Styrene	50	47		1	93	70-130	02/15/2010 2115
1,1,2,2-Tetrachloroethane	50	47		1	94	70-130	02/15/2010 2115
Tetrachloroethene	50	49		1	99	70-130	02/15/2010 2115
Toluene	50	45		1	91	70-130	02/15/2010 2115
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	47		1	94	70-130	02/15/2010 2115
1,2,4-Trichlorobenzene	50	53		1	106	70-130	02/15/2010 2115
1,1,2-Trichloroethane	50	46		1	92	70-130	02/15/2010 2115
1,1,1-Trichloroethane	50	48		1	97	70-130	02/15/2010 2115

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27741-002
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	47		1	94	70-130	02/15/2010 2115
Trichlorofluoromethane	50	48		1	97	60-140	02/15/2010 2115
Vinyl chloride	50	39		1	77	60-140	02/15/2010 2115
Xylenes (total)	100	96		1	96	70-130	02/15/2010 2115

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27741-003
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	110		1	105	11	46-153	20	02/15/2010 2136
Benzene	50	47		1	94	0.35	70-130	20	02/15/2010 2136
Bromodichloromethane	50	48		1	95	0.32	70-130	20	02/15/2010 2136
Bromoform	50	44		1	89	4.0	70-130	20	02/15/2010 2136
Bromomethane (Methyl bromide)	50	51		1	103	0.95	60-140	20	02/15/2010 2136
2-Butanone (MEK)	100	91		1	91	9.7	60-140	20	02/15/2010 2136
Carbon disulfide	50	48		1	95	3.7	60-140	20	02/15/2010 2136
Carbon tetrachloride	50	48		1	96	0.59	70-130	20	02/15/2010 2136
Chlorobenzene	50	48		1	96	2.8	70-130	20	02/15/2010 2136
Chloroethane	50	49		1	99	5.3	42-163	20	02/15/2010 2136
Chloroform	50	46		1	93	1.0	70-130	20	02/15/2010 2136
Chloromethane (Methyl chloride)	50	40		1	79	1.7	20-158	20	02/15/2010 2136
Cyclohexane	50	50		1	99	0.54	70-130	20	02/15/2010 2136
1,2-Dibromo-3-chloropropane (DBCP)	50	45		1	89	2.9	70-130	20	02/15/2010 2136
Dibromochloromethane	50	51		1	101	2.2	70-130	20	02/15/2010 2136
1,2-Dibromoethane (EDB)	50	48		1	97	3.7	70-130	20	02/15/2010 2136
1,4-Dichlorobenzene	50	47		1	94	2.2	70-130	20	02/15/2010 2136
1,3-Dichlorobenzene	50	48		1	96	0.88	70-130	20	02/15/2010 2136
1,2-Dichlorobenzene	50	48		1	96	2.2	70-130	20	02/15/2010 2136
Dichlorodifluoromethane	50	30	N	1	59	3.1	60-140	20	02/15/2010 2136
1,2-Dichloroethane	50	46		1	92	0.76	70-130	20	02/15/2010 2136
1,1-Dichloroethane	50	45		1	89	1.3	70-130	20	02/15/2010 2136
trans-1,2-Dichloroethene	50	45		1	91	2.3	70-130	20	02/15/2010 2136
cis-1,2-Dichloroethene	50	46		1	92	0.85	70-130	20	02/15/2010 2136
1,1-Dichloroethene	50	47		1	93	2.9	70-130	20	02/15/2010 2136
1,2-Dichloropropane	50	44		1	89	1.3	70-130	20	02/15/2010 2136
trans-1,3-Dichloropropene	50	50		1	100	1.8	70-130	20	02/15/2010 2136
cis-1,3-Dichloropropene	50	48		1	96	2.4	70-130	20	02/15/2010 2136
Ethylbenzene	50	49		1	98	3.5	70-130	20	02/15/2010 2136
2-Hexanone	100	92		1	92	12	60-140	20	02/15/2010 2136
Isopropylbenzene	50	50		1	101	5.7	70-130	20	02/15/2010 2136
Methyl acetate	50	43		1	86	1.5	15-128	20	02/15/2010 2136
Methyl tertiary butyl ether (MTBE)	50	49		1	97	3.5	70-130	20	02/15/2010 2136
4-Methyl-2-pentanone	100	93		1	93	4.1	60-140	20	02/15/2010 2136
Methylcyclohexane	50	49		1	98	1.4	70-130	20	02/15/2010 2136
Methylene chloride	50	49		1	99	3.7	70-130	20	02/15/2010 2136
Styrene	50	48		1	95	2.4	70-130	20	02/15/2010 2136
1,1,2,2-Tetrachloroethane	50	46		1	91	2.6	70-130	20	02/15/2010 2136
Tetrachloroethene	50	50		1	100	1.5	70-130	20	02/15/2010 2136
Toluene	50	47		1	95	4.4	70-130	20	02/15/2010 2136
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	46		1	92	1.8	70-130	20	02/15/2010 2136
1,2,4-Trichlorobenzene	50	50		1	99	6.2	70-130	20	02/15/2010 2136
1,1,2-Trichloroethane	50	46		1	93	0.78	70-130	20	02/15/2010 2136
1,1,1-Trichloroethane	50	48		1	96	0.62	70-130	20	02/15/2010 2136

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27741-003
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	47		1	94	0.26	70-130	20	02/15/2010 2136
Trichlorofluoromethane	50	42		1	84	14	60-140	20	02/15/2010 2136
Vinyl chloride	50	37		1	74	3.5	60-140	20	02/15/2010 2136
Xylenes (total)	100	98		1	98	1.6	70-130	20	02/15/2010 2136

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: LB12007-009MS
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	18	100	74	N	1	56	80-130	02/16/2010 0623
Benzene	ND	50	38		1	77	70-130	02/16/2010 0623
Bromodichloromethane	ND	50	36		1	73	70-130	02/16/2010 0623
Bromoform	ND	50	28	N	1	57	70-130	02/16/2010 0623
Bromomethane (Methyl bromide)	ND	50	42		1	83	60-140	02/16/2010 0623
2-Butanone (MEK)	ND	100	61		1	61	60-140	02/16/2010 0623
Carbon disulfide	ND	50	39		1	78	60-140	02/16/2010 0623
Carbon tetrachloride	ND	50	39		1	79	70-130	02/16/2010 0623
Chlorobenzene	ND	50	37		1	73	70-130	02/16/2010 0623
Chloroethane	ND	50	44		1	87	42-163	02/16/2010 0623
Chloroform	ND	50	39		1	79	70-130	02/16/2010 0623
Chloromethane (Methyl chloride)	ND	50	32		1	64	20-158	02/16/2010 0623
Cyclohexane	ND	50	42		1	84	70-130	02/16/2010 0623
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	33	N	1	65	70-130	02/16/2010 0623
Dibromochloromethane	ND	50	35		1	71	70-130	02/16/2010 0623
1,2-Dibromoethane (EDB)	ND	50	35	N	1	69	70-130	02/16/2010 0623
1,4-Dichlorobenzene	ND	50	35		1	70	70-130	02/16/2010 0623
1,3-Dichlorobenzene	ND	50	37		1	74	70-130	02/16/2010 0623
1,2-Dichlorobenzene	ND	50	38		1	76	70-130	02/16/2010 0623
Dichlorodifluoromethane	ND	50	26	N	1	51	60-140	02/16/2010 0623
1,2-Dichloroethane	ND	50	37		1	74	70-130	02/16/2010 0623
1,1-Dichloroethane	ND	50	39		1	78	70-130	02/16/2010 0623
trans-1,2-Dichloroethene	ND	50	39		1	78	70-130	02/16/2010 0623
cis-1,2-Dichloroethene	0.47	50	39		1	76	70-130	02/16/2010 0623
1,1-Dichloroethene	ND	50	40		1	81	70-130	02/16/2010 0623
1,2-Dichloropropane	ND	50	35	N	1	69	70-130	02/16/2010 0623
trans-1,3-Dichloropropene	ND	50	34	N	1	69	70-130	02/16/2010 0623
cis-1,3-Dichloropropene	ND	50	33	N	1	66	70-130	02/16/2010 0623
Ethylbenzene	ND	50	37		1	74	70-130	02/16/2010 0623
2-Hexanone	ND	100	58	N	1	58	60-140	02/16/2010 0623
Isopropylbenzene	ND	50	42		1	83	70-130	02/16/2010 0623
Methyl acetate	ND	50	32		1	64	15-128	02/16/2010 0623
Methyl tertiary butyl ether (MTBE)	ND	50	40		1	79	70-130	02/16/2010 0623
4-Methyl-2-pentanone	ND	100	65		1	65	60-140	02/16/2010 0623
Methylcyclohexane	ND	50	41		1	82	70-130	02/16/2010 0623
Methylene chloride	ND	50	42		1	85	70-130	02/16/2010 0623
Styrene	ND	50	36		1	72	70-130	02/16/2010 0623
1,1,2,2-Tetrachloroethane	ND	50	35		1	70	70-130	02/16/2010 0623
Tetrachloroethene	ND	50	38		1	76	70-130	02/16/2010 0623
Toluene	ND	50	36		1	72	70-130	02/16/2010 0623
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	41		1	81	70-130	02/16/2010 0623
1,2,4-Trichlorobenzene	ND	50	40		1	81	70-130	02/16/2010 0623
1,1,2-Trichloroethane	ND	50	34	N	1	69	70-130	02/16/2010 0623
1,1,1-Trichloroethane	ND	50	41		1	81	70-130	02/16/2010 0623

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: LB12007-009MS
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	ND	50	37		1	75	70-130	02/16/2010 0623
Trichlorofluoromethane	ND	50	39		1	78	60-140	02/16/2010 0623
Vinyl chloride	ND	50	33		1	67	60-140	02/16/2010 0623
Xylenes (total)	ND	100	75		1	75	70-130	02/16/2010 0623

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: LB12007-009MD
Batch: 27741
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	18	100	75	N	1	57	1.9	80-130	20	02/16/2010 0645
Benzene	ND	50	41		1	81	5.7	70-130	20	02/16/2010 0645
Bromodichloromethane	ND	50	40		1	79	8.5	70-130	20	02/16/2010 0645
Bromoform	ND	50	33	N	1	65	14	70-130	20	02/16/2010 0645
Bromomethane (Methyl bromide)	ND	50	41		1	83	0.63	60-140	20	02/16/2010 0645
2-Butanone (MEK)	ND	100	68		1	68	11	60-140	20	02/16/2010 0645
Carbon disulfide	ND	50	39		1	77	1.7	60-140	20	02/16/2010 0645
Carbon tetrachloride	ND	50	41		1	81	2.9	70-130	20	02/16/2010 0645
Chlorobenzene	ND	50	40		1	79	8.0	70-130	20	02/16/2010 0645
Chloroethane	ND	50	42		1	84	3.2	42-163	20	02/16/2010 0645
Chloroform	ND	50	40		1	79	0.92	70-130	20	02/16/2010 0645
Chloromethane (Methyl chloride)	ND	50	32		1	64	0.71	20-158	20	02/16/2010 0645
Cyclohexane	ND	50	42		1	85	0.77	70-130	20	02/16/2010 0645
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	36		1	72	9.2	70-130	20	02/16/2010 0645
Dibromochloromethane	ND	50	39		1	78	10	70-130	20	02/16/2010 0645
1,2-Dibromoethane (EDB)	ND	50	39		1	78	12	70-130	20	02/16/2010 0645
1,4-Dichlorobenzene	ND	50	38		1	77	8.6	70-130	20	02/16/2010 0645
1,3-Dichlorobenzene	ND	50	40		1	80	7.5	70-130	20	02/16/2010 0645
1,2-Dichlorobenzene	ND	50	40		1	80	5.3	70-130	20	02/16/2010 0645
Dichlorodifluoromethane	ND	50	26	N	1	52	0.35	60-140	20	02/16/2010 0645
1,2-Dichloroethane	ND	50	39		1	77	4.4	70-130	20	02/16/2010 0645
1,1-Dichloroethane	ND	50	38		1	76	1.7	70-130	20	02/16/2010 0645
trans-1,2-Dichloroethene	ND	50	39		1	77	1.3	70-130	20	02/16/2010 0645
cis-1,2-Dichloroethene	0.47	50	39		1	77	1.1	70-130	20	02/16/2010 0645
1,1-Dichloroethene	ND	50	40		1	81	0.53	70-130	20	02/16/2010 0645
1,2-Dichloropropane	ND	50	38		1	76	9.0	70-130	20	02/16/2010 0645
trans-1,3-Dichloropropene	ND	50	39		1	78	13	70-130	20	02/16/2010 0645
cis-1,3-Dichloropropene	ND	50	38		1	77	15	70-130	20	02/16/2010 0645
Ethylbenzene	ND	50	40		1	81	8.3	70-130	20	02/16/2010 0645
2-Hexanone	ND	100	71		1	71	20	60-140	20	02/16/2010 0645
Isopropylbenzene	ND	50	43		1	85	2.8	70-130	20	02/16/2010 0645
Methyl acetate	ND	50	33		1	67	4.0	15-128	20	02/16/2010 0645
Methyl tertiary butyl ether (MTBE)	ND	50	39		1	78	1.8	70-130	20	02/16/2010 0645
4-Methyl-2-pentanone	ND	100	75		1	75	14	60-140	20	02/16/2010 0645
Methylcyclohexane	ND	50	42		1	83	1.1	70-130	20	02/16/2010 0645
Methylene chloride	ND	50	42		1	83	1.7	70-130	20	02/16/2010 0645
Styrene	ND	50	39		1	78	7.0	70-130	20	02/16/2010 0645
1,1,2,2-Tetrachloroethane	ND	50	38		1	75	7.8	70-130	20	02/16/2010 0645
Tetrachloroethene	ND	50	40		1	80	5.2	70-130	20	02/16/2010 0645
Toluene	ND	50	40		1	81	12	70-130	20	02/16/2010 0645
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	40		1	80	1.3	70-130	20	02/16/2010 0645
1,2,4-Trichlorobenzene	ND	50	40		1	79	2.0	70-130	20	02/16/2010 0645
1,1,2-Trichloroethane	ND	50	38		1	75	9.1	70-130	20	02/16/2010 0645
1,1,1-Trichloroethane	ND	50	41		1	82	1.4	70-130	20	02/16/2010 0645

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: LB12007-009MD
Batch: 27741
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	ND	50	40		1	80	6.8	70-130	20	02/16/2010 0645
Trichlorofluoromethane	ND	50	39		1	79	1.4	60-140	20	02/16/2010 0645
Vinyl chloride	ND	50	33		1	67	0.50	60-140	20	02/16/2010 0645
Xylenes (total)	ND	100	79		1	79	5.9	70-130	20	02/16/2010 0645

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27747-001
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/16/2010 0921
Benzene	ND		1	0.50	0.027	ug/L	02/16/2010 0921
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Bromoform	ND		1	0.50	0.010	ug/L	02/16/2010 0921
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/16/2010 0921
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/16/2010 0921
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/16/2010 0921
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/16/2010 0921
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Chloroethane	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Chloroform	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Cyclohexane	ND		1	0.50	0.30	ug/L	02/16/2010 0921
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/16/2010 0921
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/16/2010 0921
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/16/2010 0921
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/16/2010 0921
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/16/2010 0921
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/16/2010 0921
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/16/2010 0921
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/16/2010 0921
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/16/2010 0921
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/16/2010 0921
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/16/2010 0921
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/16/2010 0921
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
2-Hexanone	ND		1	10	0.27	ug/L	02/16/2010 0921
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/16/2010 0921
Methyl acetate	ND		1	1.0	0.30	ug/L	02/16/2010 0921
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/16/2010 0921
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/16/2010 0921
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/16/2010 0921
Methylene chloride	ND		1	0.50	0.17	ug/L	02/16/2010 0921
Styrene	ND		1	0.50	0.015	ug/L	02/16/2010 0921
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/16/2010 0921
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/16/2010 0921
Toluene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/16/2010 0921
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/16/2010 0921
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/16/2010 0921
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/16/2010 0921

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ27747-001
Batch: 27747
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/16/2010 0921
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/16/2010 0921
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/16/2010 0921
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/16/2010 0921

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		116	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27747-002
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	100		1	104	46-153	02/16/2010 0755
Benzene	50	54		1	108	70-130	02/16/2010 0755
Bromodichloromethane	50	46		1	91	70-130	02/16/2010 0755
Bromoform	50	58		1	116	70-130	02/16/2010 0755
Bromomethane (Methyl bromide)	50	54		1	108	60-140	02/16/2010 0755
2-Butanone (MEK)	100	93		1	93	60-140	02/16/2010 0755
Carbon disulfide	50	55		1	110	60-140	02/16/2010 0755
Carbon tetrachloride	50	52		1	104	70-130	02/16/2010 0755
Chlorobenzene	50	44		1	89	70-130	02/16/2010 0755
Chloroethane	50	55		1	110	42-163	02/16/2010 0755
Chloroform	50	46		1	93	70-130	02/16/2010 0755
Chloromethane (Methyl chloride)	50	47		1	94	20-158	02/16/2010 0755
Cyclohexane	50	49		1	98	70-130	02/16/2010 0755
1,2-Dibromo-3-chloropropane (DBCP)	50	52		1	105	70-130	02/16/2010 0755
Dibromochloromethane	50	50		1	100	70-130	02/16/2010 0755
1,2-Dibromoethane (EDB)	50	45		1	89	70-130	02/16/2010 0755
1,4-Dichlorobenzene	50	53		1	107	70-130	02/16/2010 0755
1,3-Dichlorobenzene	50	54		1	108	70-130	02/16/2010 0755
1,2-Dichlorobenzene	50	55		1	111	70-130	02/16/2010 0755
Dichlorodifluoromethane	50	36		1	71	60-140	02/16/2010 0755
1,2-Dichloroethane	50	45		1	90	70-130	02/16/2010 0755
1,1-Dichloroethane	50	47		1	93	70-130	02/16/2010 0755
trans-1,2-Dichloroethene	50	48		1	96	70-130	02/16/2010 0755
cis-1,2-Dichloroethene	50	54		1	109	70-130	02/16/2010 0755
1,1-Dichloroethene	50	50		1	99	70-130	02/16/2010 0755
1,2-Dichloropropane	50	44		1	88	70-130	02/16/2010 0755
trans-1,3-Dichloropropene	50	52		1	104	70-130	02/16/2010 0755
cis-1,3-Dichloropropene	50	50		1	99	70-130	02/16/2010 0755
Ethylbenzene	50	46		1	92	70-130	02/16/2010 0755
2-Hexanone	100	88		1	88	60-140	02/16/2010 0755
Isopropylbenzene	50	48		1	97	70-130	02/16/2010 0755
Methyl acetate	50	55		1	110	15-128	02/16/2010 0755
Methyl tertiary butyl ether (MTBE)	50	54		1	109	70-130	02/16/2010 0755
4-Methyl-2-pentanone	100	88		1	88	60-140	02/16/2010 0755
Methylcyclohexane	50	52		1	105	70-130	02/16/2010 0755
Methylene chloride	50	55		1	111	70-130	02/16/2010 0755
Styrene	50	48		1	95	70-130	02/16/2010 0755
1,1,2,2-Tetrachloroethane	50	47		1	93	70-130	02/16/2010 0755
Tetrachloroethene	50	52		1	104	70-130	02/16/2010 0755
Toluene	50	43		1	87	70-130	02/16/2010 0755
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	52		1	103	70-130	02/16/2010 0755
1,2,4-Trichlorobenzene	50	57		1	114	70-130	02/16/2010 0755
1,1,2-Trichloroethane	50	44		1	89	70-130	02/16/2010 0755
1,1,1-Trichloroethane	50	49		1	99	70-130	02/16/2010 0755

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ27747-002
Batch: 27747
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	46		1	92	70-130	02/16/2010 0755
Trichlorofluoromethane	50	49		1	99	60-140	02/16/2010 0755
Vinyl chloride	50	43		1	87	60-140	02/16/2010 0755
Xylenes (total)	100	100		1	101	70-130	02/16/2010 0755

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27747-003
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	91		1	91	13	46-153	20	02/16/2010 0817
Benzene	50	55		1	110	1.6	70-130	20	02/16/2010 0817
Bromodichloromethane	50	47		1	93	2.1	70-130	20	02/16/2010 0817
Bromoform	50	62		1	124	6.5	70-130	20	02/16/2010 0817
Bromomethane (Methyl bromide)	50	51		1	102	4.9	60-140	20	02/16/2010 0817
2-Butanone (MEK)	100	93		1	93	0.60	60-140	20	02/16/2010 0817
Carbon disulfide	50	53		1	106	3.7	60-140	20	02/16/2010 0817
Carbon tetrachloride	50	51		1	103	1.4	70-130	20	02/16/2010 0817
Chlorobenzene	50	47		1	93	4.9	70-130	20	02/16/2010 0817
Chloroethane	50	52		1	104	5.5	42-163	20	02/16/2010 0817
Chloroform	50	45		1	91	1.9	70-130	20	02/16/2010 0817
Chloromethane (Methyl chloride)	50	43		1	87	7.8	20-158	20	02/16/2010 0817
Cyclohexane	50	46		1	92	6.8	70-130	20	02/16/2010 0817
1,2-Dibromo-3-chloropropane (DBCP)	50	56		1	112	6.5	70-130	20	02/16/2010 0817
Dibromochloromethane	50	53		1	105	4.7	70-130	20	02/16/2010 0817
1,2-Dibromoethane (EDB)	50	47		1	95	6.3	70-130	20	02/16/2010 0817
1,4-Dichlorobenzene	50	57		1	113	5.9	70-130	20	02/16/2010 0817
1,3-Dichlorobenzene	50	56		1	113	4.4	70-130	20	02/16/2010 0817
1,2-Dichlorobenzene	50	59		1	117	5.5	70-130	20	02/16/2010 0817
Dichlorodifluoromethane	50	34		1	68	4.6	60-140	20	02/16/2010 0817
1,2-Dichloroethane	50	44		1	87	3.1	70-130	20	02/16/2010 0817
1,1-Dichloroethane	50	46		1	91	2.6	70-130	20	02/16/2010 0817
trans-1,2-Dichloroethene	50	46		1	93	2.8	70-130	20	02/16/2010 0817
cis-1,2-Dichloroethene	50	53		1	106	2.8	70-130	20	02/16/2010 0817
1,1-Dichloroethene	50	48		1	96	3.2	70-130	20	02/16/2010 0817
1,2-Dichloropropane	50	45		1	90	2.4	70-130	20	02/16/2010 0817
trans-1,3-Dichloropropene	50	54		1	108	3.8	70-130	20	02/16/2010 0817
cis-1,3-Dichloropropene	50	51		1	103	3.9	70-130	20	02/16/2010 0817
Ethylbenzene	50	48		1	96	4.0	70-130	20	02/16/2010 0817
2-Hexanone	100	91		1	91	3.7	60-140	20	02/16/2010 0817
Isopropylbenzene	50	49		1	97	0.78	70-130	20	02/16/2010 0817
Methyl acetate	50	52		1	104	5.8	15-128	20	02/16/2010 0817
Methyl tertiary butyl ether (MTBE)	50	53		1	106	3.0	70-130	20	02/16/2010 0817
4-Methyl-2-pentanone	100	88		1	88	0.50	60-140	20	02/16/2010 0817
Methylcyclohexane	50	52		1	104	0.48	70-130	20	02/16/2010 0817
Methylene chloride	50	54		1	107	3.3	70-130	20	02/16/2010 0817
Styrene	50	51		1	101	6.4	70-130	20	02/16/2010 0817
1,1,2,2-Tetrachloroethane	50	47		1	93	0.20	70-130	20	02/16/2010 0817
Tetrachloroethene	50	56		1	112	6.7	70-130	20	02/16/2010 0817
Toluene	50	45		1	90	3.9	70-130	20	02/16/2010 0817
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	51		1	102	1.7	70-130	20	02/16/2010 0817
1,2,4-Trichlorobenzene	50	60		1	119	4.2	70-130	20	02/16/2010 0817
1,1,2-Trichloroethane	50	47		1	93	4.7	70-130	20	02/16/2010 0817
1,1,1-Trichloroethane	50	49		1	97	1.7	70-130	20	02/16/2010 0817

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and >_MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ27747-003
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	47		1	94	2.9	70-130	20	02/16/2010 0817
Trichlorofluoromethane	50	48		1	96	2.3	60-140	20	02/16/2010 0817
Vinyl chloride	50	41		1	82	6.2	60-140	20	02/16/2010 0817
Xylenes (total)	100	110		1	106	4.7	70-130	20	02/16/2010 0817

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		116	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		110	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: LB12007-020MS
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	1.1	100	99		1	99	80-130	02/16/2010 1710
Benzene	ND	50	56		1	112	70-130	02/16/2010 1710
Bromodichloromethane	ND	50	47		1	95	70-130	02/16/2010 1710
Bromoform	ND	50	57		1	113	70-130	02/16/2010 1710
Bromomethane (Methyl bromide)	ND	50	55		1	110	60-140	02/16/2010 1710
2-Butanone (MEK)	ND	100	100		1	101	60-140	02/16/2010 1710
Carbon disulfide	ND	50	57		1	114	60-140	02/16/2010 1710
Carbon tetrachloride	ND	50	52		1	105	70-130	02/16/2010 1710
Chlorobenzene	ND	50	48		1	95	70-130	02/16/2010 1710
Chloroethane	ND	50	58		1	115	42-163	02/16/2010 1710
Chloroform	ND	50	46		1	93	70-130	02/16/2010 1710
Chloromethane (Methyl chloride)	ND	50	50		1	101	20-158	02/16/2010 1710
Cyclohexane	ND	50	50		1	99	70-130	02/16/2010 1710
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	53		1	107	70-130	02/16/2010 1710
Dibromochloromethane	ND	50	52		1	104	70-130	02/16/2010 1710
1,2-Dibromoethane (EDB)	ND	50	49		1	98	70-130	02/16/2010 1710
1,4-Dichlorobenzene	ND	50	57		1	113	70-130	02/16/2010 1710
1,3-Dichlorobenzene	ND	50	57		1	114	70-130	02/16/2010 1710
1,2-Dichlorobenzene	ND	50	57		1	114	70-130	02/16/2010 1710
Dichlorodifluoromethane	ND	50	52		1	105	60-140	02/16/2010 1710
1,2-Dichloroethane	ND	50	46		1	92	70-130	02/16/2010 1710
1,1-Dichloroethane	ND	50	47		1	93	70-130	02/16/2010 1710
trans-1,2-Dichloroethene	ND	50	47		1	95	70-130	02/16/2010 1710
cis-1,2-Dichloroethene	ND	50	54		1	108	70-130	02/16/2010 1710
1,1-Dichloroethene	ND	50	50		1	99	70-130	02/16/2010 1710
1,2-Dichloropropane	ND	50	46		1	93	70-130	02/16/2010 1710
trans-1,3-Dichloropropene	ND	50	55		1	109	70-130	02/16/2010 1710
cis-1,3-Dichloropropene	ND	50	52		1	103	70-130	02/16/2010 1710
Ethylbenzene	ND	50	48		1	96	70-130	02/16/2010 1710
2-Hexanone	ND	100	97		1	97	60-140	02/16/2010 1710
Isopropylbenzene	ND	50	50		1	100	70-130	02/16/2010 1710
Methyl acetate	ND	50	55		1	110	15-128	02/16/2010 1710
Methyl tertiary butyl ether (MTBE)	ND	50	55		1	110	70-130	02/16/2010 1710
4-Methyl-2-pentanone	ND	100	94		1	94	60-140	02/16/2010 1710
Methylcyclohexane	ND	50	53		1	106	70-130	02/16/2010 1710
Methylene chloride	ND	50	54		1	109	70-130	02/16/2010 1710
Styrene	ND	50	49		1	98	70-130	02/16/2010 1710
1,1,2,2-Tetrachloroethane	ND	50	48		1	97	70-130	02/16/2010 1710
Tetrachloroethene	ND	50	57		1	113	70-130	02/16/2010 1710
Toluene	ND	50	46		1	92	70-130	02/16/2010 1710
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	53		1	106	70-130	02/16/2010 1710
1,2,4-Trichlorobenzene	ND	50	58		1	116	70-130	02/16/2010 1710
1,1,2-Trichloroethane	ND	50	49		1	97	70-130	02/16/2010 1710
1,1,1-Trichloroethane	ND	50	50		1	99	70-130	02/16/2010 1710

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MS

Sample ID: LB12007-020MS
Batch: 27747
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	ND	50	48		1	96	70-130	02/16/2010 1710
Trichlorofluoromethane	ND	50	53		1	105	60-140	02/16/2010 1710
Vinyl chloride	ND	50	47		1	94	60-140	02/16/2010 1710
Xylenes (total)	ND	100	110		1	106	70-130	02/16/2010 1710

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		114	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: LB12007-020MD
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	1.1	100	96		1	96	3.2	80-130	20	02/16/2010 1732
Benzene	ND	50	56		1	113	0.82	70-130	20	02/16/2010 1732
Bromodichloromethane	ND	50	47		1	95	0.33	70-130	20	02/16/2010 1732
Bromoform	ND	50	56		1	113	0.63	70-130	20	02/16/2010 1732
Bromomethane (Methyl bromide)	ND	50	57		1	115	4.3	60-140	20	02/16/2010 1732
2-Butanone (MEK)	ND	100	98		1	98	3.6	60-140	20	02/16/2010 1732
Carbon disulfide	ND	50	57		1	115	0.68	60-140	20	02/16/2010 1732
Carbon tetrachloride	ND	50	52		1	104	0.58	70-130	20	02/16/2010 1732
Chlorobenzene	ND	50	47		1	94	0.66	70-130	20	02/16/2010 1732
Chloroethane	ND	50	59		1	117	1.7	42-163	20	02/16/2010 1732
Chloroform	ND	50	47		1	93	0.48	70-130	20	02/16/2010 1732
Chloromethane (Methyl chloride)	ND	50	52		1	104	2.9	20-158	20	02/16/2010 1732
Cyclohexane	ND	50	48		1	97	2.3	70-130	20	02/16/2010 1732
1,2-Dibromo-3-chloropropane (DBCP)	ND	50	55		1	110	2.9	70-130	20	02/16/2010 1732
Dibromochloromethane	ND	50	51		1	102	2.1	70-130	20	02/16/2010 1732
1,2-Dibromoethane (EDB)	ND	50	49		1	97	1.2	70-130	20	02/16/2010 1732
1,4-Dichlorobenzene	ND	50	57		1	114	0.53	70-130	20	02/16/2010 1732
1,3-Dichlorobenzene	ND	50	56		1	113	1.1	70-130	20	02/16/2010 1732
1,2-Dichlorobenzene	ND	50	58		1	116	2.0	70-130	20	02/16/2010 1732
Dichlorodifluoromethane	ND	50	51		1	102	2.2	60-140	20	02/16/2010 1732
1,2-Dichloroethane	ND	50	46		1	92	0.0043	70-130	20	02/16/2010 1732
1,1-Dichloroethane	ND	50	47		1	94	0.58	70-130	20	02/16/2010 1732
trans-1,2-Dichloroethene	ND	50	48		1	96	1.8	70-130	20	02/16/2010 1732
cis-1,2-Dichloroethene	ND	50	55		1	109	0.83	70-130	20	02/16/2010 1732
1,1-Dichloroethene	ND	50	50		1	101	1.4	70-130	20	02/16/2010 1732
1,2-Dichloropropane	ND	50	46		1	93	0.10	70-130	20	02/16/2010 1732
trans-1,3-Dichloropropene	ND	50	54		1	108	1.3	70-130	20	02/16/2010 1732
cis-1,3-Dichloropropene	ND	50	51		1	103	0.78	70-130	20	02/16/2010 1732
Ethylbenzene	ND	50	48		1	97	0.57	70-130	20	02/16/2010 1732
2-Hexanone	ND	100	95		1	95	2.4	60-140	20	02/16/2010 1732
Isopropylbenzene	ND	50	49		1	98	1.5	70-130	20	02/16/2010 1732
Methyl acetate	ND	50	55		1	110	0.018	15-128	20	02/16/2010 1732
Methyl tertiary butyl ether (MTBE)	ND	50	55		1	110	0.57	70-130	20	02/16/2010 1732
4-Methyl-2-pentanone	ND	100	93		1	93	1.9	60-140	20	02/16/2010 1732
Methylcyclohexane	ND	50	53		1	106	0.29	70-130	20	02/16/2010 1732
Methylene chloride	ND	50	55		1	109	0.46	70-130	20	02/16/2010 1732
Styrene	ND	50	48		1	97	1.1	70-130	20	02/16/2010 1732
1,1,2,2-Tetrachloroethane	ND	50	48		1	96	0.80	70-130	20	02/16/2010 1732
Tetrachloroethene	ND	50	56		1	112	0.90	70-130	20	02/16/2010 1732
Toluene	ND	50	47		1	93	1.1	70-130	20	02/16/2010 1732
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	54		1	109	2.0	70-130	20	02/16/2010 1732
1,2,4-Trichlorobenzene	ND	50	60		1	119	2.9	70-130	20	02/16/2010 1732
1,1,2-Trichloroethane	ND	50	48		1	96	1.3	70-130	20	02/16/2010 1732
1,1,1-Trichloroethane	ND	50	50		1	100	0.86	70-130	20	02/16/2010 1732

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MSD

Sample ID: LB12007-020MD
Batch: 27747
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	ND	50	49		1	97	1.7	70-130	20	02/16/2010 1732
Trichlorofluoromethane	ND	50	53		1	106	0.32	60-140	20	02/16/2010 1732
Vinyl chloride	ND	50	48		1	96	1.5	60-140	20	02/16/2010 1732
Xylenes (total)	ND	100	110		1	105	0.73	70-130	20	02/16/2010 1732

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and >_MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY **Chain of Custody Record**

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 105925

Client	Report to Contact	Telephone No. / Fax No. / E-mail	Quote No.
Arcadis	Janet Christy	770-296-1259	
Address	**Sampler's Signature**	**Waybill No.**	**Page** 1 of 3
2849 Paces Ferry Rd			
City / **State** / **Zip Code**	**Printed Name**	**Analysis (Attach list if more space is needed.)**	
Atlanta / GA / 30339	Ryan Kontos / Robert B. Shealy		
Project Name			
Hunter H17 Report			

| Project No. | P.O. No. | | |

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 105926

Client: Arcadis	Report to Contact: Janet Christy	Telephone No. / Fax No. / E-mail: 770-296-1259	Quote No.
Address: 2849 Paces Ferry Rd	Sampler's Signature:	Waybill No.	Page 2 of 3
City: Atlanta / State: GA / Zip Code: 30339	Printed Name: Ryan Kontos / Robert B. Sheely	Analysis (Attach list if more space is needed.)	
Project Name: Hunter H17 Report			
Project No.: GP08HAFS.H17B.DGOFI	P.O. No.		Lot No. LB12007

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Sampled Grab / Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	Ascorbic Acid		VOCs (SW8260B)									Remarks / Cooler I.D.
AF-41 (2-10-10)	2/10/10	1552	G	X						X				3									
AF-58 (2-11-10)	2/11/10	0937	G	X						X				3									
AF-35 (2-11-10)		0940	G	X						X				3									
AF-25 (2-11-10)		1027	G	X						X				3									
AF-26 (2-11-10)		1049	G	X						X				3									
MW-12S (2-11-10)		1319	G	X						X				3									
MW-12D (2-11-10)		1330	G	X						X				3									
MW-7D (2-11-10)		1423	G	X						X				3									
MW-07S (2-11-10)		1437	G	X						X				3									
MW-2S (2-11-10)		1646	G	X						X				9									9 Bottles MS/MSD

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush: (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	2/11/10	1730	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by FEDEX	2-12-10	0905	3. Laboratory received by	2/12/10	0905

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 4.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 105924

Client: Arcadis	Report to Contact: Janet Christy	Telephone No. / Fax No. / E-mail: 770-296-1259	Quote No.
Address: 2849 Paces Ferry Rd	Sampler's Signature: X	Waybill No.	Page 3 of 3
City: Atlanta / State: GA / Zip Code: 30339	Printed Name: Ryan Kontos / Robert B. Sledz	Analysis (Attach list if more space is needed.)	
Project Name: Hunter H17 Report			
Project No.: GP08HAFS. H17B. D60FT	P.O. No.		Lot No.: LB12067

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	VOCs (SUBLAB)	Remarks / Cooler I.D.
MW-2D (2-11-10)	2/11/10	1652	G	X						X			3	
Trip Blank	2/11/10	—	G	X						X			2	
MW-3S (PK)	2/11/10	1548	G	X						X			3	
MW-3D	2/11/10	1552	G	X						X			3	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	2/11/10	1730	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by FEDEX	2/12/10	0905	3. Laboratory received by	2/12/10	0905

Comments:

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack

Receipt Temp. 4.1 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-09

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: EC 2/12/10 Lot #: LB12007

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other			
Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt 4-1 °C / °C / °C / °C / °C / °C / °C / °C Method: ☐ Temperature Blank ☑ Against Bottles Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None			
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.			
Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)_____

Sample(s)_____ were received with bubbles >6 mm in diameter.

Sample(s)_____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s)_____ analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

SESI employee:_____

Comments:_____

2/11/10 FedEx Tracking Number 871525021813

Phone 864 216-3450

Company ARCADIS

Address 30 PATEWOOD DR STE 155

State SC ZIP 29615-6809

GP08HAFS.H17B.DG0FI

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Chase Forman

Project Name: Hunter Stewart H17

Project Number: GP08HAFS.H17B.DG0FI

Lot Number: LB18061

Date Completed: 02/25/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

* L B 1 8 0 6 1 *

Case Narrative
ARCADIS U.S., Inc.
Lot Number: LB18061

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The LCS recovery for Dichlorodifluoromethane was slightly outside method control limits in batch 28053. The LCSD recovery for Bromoform was slightly outside method control limits in batch 28053. As per method, it is statistically likely that a few analytes will be outside control limits; up to five analytes may marginally exceed the control limits. Therefore the associated sample results were reported and no corrective action was required.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: LB18061

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-5D (2-16-10)	Aqueous	02/16/2010 0839	02/18/2010
002	MW-5S (2-16-10)	Aqueous	02/16/2010 0932	02/18/2010
003	MW-13D (2-16-10)	Aqueous	02/16/2010 1103	02/18/2010
004	MW-13S (2-16-10)	Aqueous	02/16/2010 1148	02/18/2010
005	MW-9S (2-16-10)	Aqueous	02/16/2010 1247	02/18/2010
006	MW-9D (2-16-10)	Aqueous	02/16/2010 1337	02/18/2010
007	MW-8S (2-16-10)	Aqueous	02/16/2010 1453	02/18/2010
008	MW-8D (2-16-10)	Aqueous	02/16/2010 1546	02/18/2010
009	MW-16S (2-17-10)	Aqueous	02/17/2010 1012	02/18/2010
010	AT-MW-3 (2-17-10)	Aqueous	02/17/2010 1314	02/18/2010
011	AT-MW-5 (2-17-10)	Aqueous	02/17/2010 1408	02/18/2010
012	AT-MW-2 (2-17-10)	Aqueous	02/17/2010 1516	02/18/2010
013	AT-MW-1 (2-17-10)	Aqueous	02/17/2010 1615	02/18/2010
014	AT-MW-4 (2-17-10)	Aqueous	02/17/2010 1726	02/18/2010
015	DUP-2	Aqueous	02/17/2010 1200	02/18/2010
016	TRIP BLANK	Aqueous	02/18/2010 0910	02/18/2010
017	MW-15S (2-19-10)	Aqueous	02/19/2010 0922	02/20/2010
018	TRIP BLANK	Aqueous	02/20/2010 1040	02/20/2010

(18 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: LB18061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
005	MW-9S (2-16-10)	Aqueous	1,1-Dichloroethene	8260B	1.8		ug/L	13
006	MW-9D (2-16-10)	Aqueous	Acetone	8260B	18		ug/L	15
006	MW-9D (2-16-10)	Aqueous	1,1-Dichloroethene	8260B	0.40	J	ug/L	15
007	MW-8S (2-16-10)	Aqueous	Acetone	8260B	18		ug/L	17
008	MW-8D (2-16-10)	Aqueous	1,1-Dichloroethene	8260B	5.1		ug/L	19
009	MW-16S (2-17-10)	Aqueous	1,1-Dichloroethene	8260B	0.49	J	ug/L	21
009	MW-16S (2-17-10)	Aqueous	Vinyl chloride	8260B	1.3		ug/L	22
010	AT-MW-3 (2-17-10)	Aqueous	Barium	6010C	0.020	J	mg/L	25
011	AT-MW-5 (2-17-10)	Aqueous	Acetone	8260B	18		ug/L	26
011	AT-MW-5 (2-17-10)	Aqueous	Chloroform	8260B	0.30	J	ug/L	26
011	AT-MW-5 (2-17-10)	Aqueous	Ethylbenzene	8260B	0.20	J	ug/L	26
011	AT-MW-5 (2-17-10)	Aqueous	Isopropylbenzene	8260B	0.56		ug/L	26
012	AT-MW-2 (2-17-10)	Aqueous	Barium	6010C	0.0094	J	mg/L	31
012	AT-MW-2 (2-17-10)	Aqueous	Chromium	6010C	0.0022	J	mg/L	31
013	AT-MW-1 (2-17-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.63		ug/L	32
013	AT-MW-1 (2-17-10)	Aqueous	Trichloroethene	8260B	14		ug/L	33
013	AT-MW-1 (2-17-10)	Aqueous	Barium	6010C	0.028		mg/L	34
014	AT-MW-4 (2-17-10)	Aqueous	Barium	6010C	0.037		mg/L	37
014	AT-MW-4 (2-17-10)	Aqueous	Chromium	6010C	0.0022	J	mg/L	37
015	DUP-2	Aqueous	Acetone	8260B	18		ug/L	38
015	DUP-2	Aqueous	Barium	6010C	0.021	J	mg/L	40
016	TRIP BLANK	Aqueous	Acetone	8260B	18		ug/L	41
018	TRIP BLANK	Aqueous	Styrene	8260B	0.18	J	ug/L	45

(23 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: MW-5D (2-16-10)
Date Sampled: 02/16/2010 0839
Date Received: 02/18/2010

Laboratory ID: LB18061-001
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0020	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-001
Description: MW-5D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 0839
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0020	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-002
Description: MW-5S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 0932
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0042	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-002
Description: MW-5S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 0932
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0042	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-003
Description: MW-13D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1103
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0104	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-003
Description: MW-13D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1103
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0104	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-004
Description: MW-13S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1148
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0126	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-004
Description: MW-13S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1148
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0126	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-005
Description: MW-9S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1247
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0148	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	1.8		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-005
Description: MW-9S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1247
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0148	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-006
Description: MW-9D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1337
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0210	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.40	J	0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-006
Description: MW-9D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1337
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0210	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-007
Description: MW-8S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1453
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0232	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-007
Description: MW-8S (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1453
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0232	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: MW-8D (2-16-10)
Date Sampled: 02/16/2010 1546
Date Received: 02/18/2010

Laboratory ID: LB18061-008
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0254	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	5.1		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-008
Description: MW-8D (2-16-10)
Matrix: Aqueous
Date Sampled: 02/16/2010 1546
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0254	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-009
Description: MW-16S (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1012
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0316	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.49	J	0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-009
Description: MW-16S (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1012
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0316	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	1.3		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-010
Description: AT-MW-3 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1314
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0338	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-010
Description: AT-MW-3 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1314
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0338	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Description: AT-MW-3 (2-17-10)
Date Sampled: 02/17/2010 1314
Date Received: 02/18/2010

Laboratory ID: LB18061-010
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2253	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	0.020	J	0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	ND		0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AT-MW-5 (2-17-10)
Date Sampled: 02/17/2010 1408
Date Received: 02/18/2010

Laboratory ID: LB18061-011
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0400	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	0.30	J	0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	0.20	J	0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	0.56		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-011
Description: AT-MW-5 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1408
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0400	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Description: AT-MW-5 (2-17-10)
Date Sampled: 02/17/2010 1408
Date Received: 02/18/2010

Laboratory ID: LB18061-011
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2259	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	ND		0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	ND		0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-012
Description: AT-MW-2 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1516
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0422	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-012
Description: AT-MW-2 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1516
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0422	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		105	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Description: AT-MW-2 (2-17-10)
Date Sampled: 02/17/2010 1516
Date Received: 02/18/2010

Laboratory ID: LB18061-012
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2305	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	0.0094	J	0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	0.0022	J	0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-013
Description: AT-MW-1 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1615
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0444	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.63		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-013
Description: AT-MW-1 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1615
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0444	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	14		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Description: AT-MW-1 (2-17-10)
Date Sampled: 02/17/2010 1615
Date Received: 02/18/2010

Laboratory ID: LB18061-013
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2311	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	0.028		0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	ND		0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: AT-MW-4 (2-17-10)
Date Sampled: 02/17/2010 1726
Date Received: 02/18/2010

Laboratory ID: LB18061-014
Matrix: Aqueous

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0506	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-014
Description: AT-MW-4 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1726
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0506	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-014
Description: AT-MW-4 (2-17-10)
Matrix: Aqueous
Date Sampled: 02/17/2010 1726
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2317	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	0.037		0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	0.0022	J	0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-015
Description: DUP-2
Matrix: Aqueous
Date Sampled: 02/17/2010 1200
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0528	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-015
Description: DUP-2
Matrix: Aqueous
Date Sampled: 02/17/2010 1200
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0528	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

ICP-AES

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-015
Description: DUP-2
Matrix: Aqueous
Date Sampled: 02/17/2010 1200
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	02/23/2010 2323	KJC	02/23/2010 1710	28103

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Barium	7440-39-3	6010C	0.021	J	0.025	0.0075	mg/L	1
Chromium	7440-47-3	6010C	ND		0.0050	0.0021	mg/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-016
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 02/18/2010 0910
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0550	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	18		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-016
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 02/18/2010 0910
Date Received: 02/18/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/23/2010 0550	DLB		28053

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-017
Description: MW-15S (2-19-10)
Matrix: Aqueous
Date Sampled: 02/19/2010 0922
Date Received: 02/20/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/24/2010 1036	DLB		28164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-017
Description: MW-15S (2-19-10)
Matrix: Aqueous
Date Sampled: 02/19/2010 0922
Date Received: 02/20/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/24/2010 1036	DLB		28164

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-018
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 02/20/2010 1040
Date Received: 02/20/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/24/2010 0120	DLB		28153

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	0.18	J	0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LB18061-018
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 02/20/2010 1040
Date Received: 02/20/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/24/2010 0120	DLB		28153

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		118	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28053-001
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/22/2010 2321
Benzene	ND		1	0.50	0.027	ug/L	02/22/2010 2321
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Bromoform	ND		1	0.50	0.010	ug/L	02/22/2010 2321
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/22/2010 2321
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/22/2010 2321
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/22/2010 2321
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/22/2010 2321
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Chloroethane	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Chloroform	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Cyclohexane	ND		1	0.50	0.30	ug/L	02/22/2010 2321
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/22/2010 2321
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/22/2010 2321
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/22/2010 2321
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/22/2010 2321
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/22/2010 2321
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/22/2010 2321
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/22/2010 2321
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/22/2010 2321
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/22/2010 2321
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/22/2010 2321
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/22/2010 2321
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/22/2010 2321
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
2-Hexanone	ND		1	10	0.27	ug/L	02/22/2010 2321
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/22/2010 2321
Methyl acetate	ND		1	1.0	0.30	ug/L	02/22/2010 2321
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/22/2010 2321
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/22/2010 2321
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/22/2010 2321
Methylene chloride	ND		1	0.50	0.17	ug/L	02/22/2010 2321
Styrene	ND		1	0.50	0.015	ug/L	02/22/2010 2321
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/22/2010 2321
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/22/2010 2321
Toluene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/22/2010 2321
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/22/2010 2321
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/22/2010 2321
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/22/2010 2321

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28053-001
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/22/2010 2321
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/22/2010 2321
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/22/2010 2321
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/22/2010 2321

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28053-002
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	130		1	130	46-153	02/22/2010 2153
Benzene	50	46		1	93	70-130	02/22/2010 2153
Bromodichloromethane	50	46		1	92	70-130	02/22/2010 2153
Bromoform	50	38		1	77	70-130	02/22/2010 2153
Bromomethane (Methyl bromide)	50	49		1	97	60-140	02/22/2010 2153
2-Butanone (MEK)	100	100		1	105	60-140	02/22/2010 2153
Carbon disulfide	50	54		1	109	60-140	02/22/2010 2153
Carbon tetrachloride	50	47		1	93	70-130	02/22/2010 2153
Chlorobenzene	50	48		1	95	70-130	02/22/2010 2153
Chloroethane	50	52		1	103	42-163	02/22/2010 2153
Chloroform	50	47		1	95	70-130	02/22/2010 2153
Chloromethane (Methyl chloride)	50	44		1	87	20-158	02/22/2010 2153
Cyclohexane	50	47		1	95	70-130	02/22/2010 2153
1,2-Dibromo-3-chloropropane (DBCP)	50	47		1	94	70-130	02/22/2010 2153
Dibromochloromethane	50	47		1	94	70-130	02/22/2010 2153
1,2-Dibromoethane (EDB)	50	48		1	95	70-130	02/22/2010 2153
1,4-Dichlorobenzene	50	46		1	93	70-130	02/22/2010 2153
1,2-Dichlorobenzene	50	49		1	98	70-130	02/22/2010 2153
1,3-Dichlorobenzene	50	48		1	96	70-130	02/22/2010 2153
Dichlorodifluoromethane	50	24	N	1	49	60-140	02/22/2010 2153
1,2-Dichloroethane	50	48		1	96	70-130	02/22/2010 2153
1,1-Dichloroethane	50	45		1	90	70-130	02/22/2010 2153
cis-1,2-Dichloroethene	50	46		1	93	70-130	02/22/2010 2153
1,1-Dichloroethene	50	49		1	97	70-130	02/22/2010 2153
trans-1,2-Dichloroethene	50	46		1	92	70-130	02/22/2010 2153
1,2-Dichloropropane	50	43		1	86	70-130	02/22/2010 2153
cis-1,3-Dichloropropene	50	45		1	90	70-130	02/22/2010 2153
trans-1,3-Dichloropropene	50	48		1	95	70-130	02/22/2010 2153
Ethylbenzene	50	48		1	96	70-130	02/22/2010 2153
2-Hexanone	100	87		1	87	60-140	02/22/2010 2153
Isopropylbenzene	50	51		1	102	70-130	02/22/2010 2153
Methyl acetate	50	46		1	91	15-128	02/22/2010 2153
Methyl tertiary butyl ether (MTBE)	50	53		1	106	70-130	02/22/2010 2153
4-Methyl-2-pentanone	100	94		1	94	60-140	02/22/2010 2153
Methylcyclohexane	50	47		1	95	70-130	02/22/2010 2153
Methylene chloride	50	50		1	101	70-130	02/22/2010 2153
Styrene	50	45		1	91	70-130	02/22/2010 2153
1,1,2,2-Tetrachloroethane	50	47		1	94	70-130	02/22/2010 2153
Tetrachloroethene	50	48		1	96	70-130	02/22/2010 2153
Toluene	50	46		1	92	70-130	02/22/2010 2153
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	101	70-130	02/22/2010 2153
1,2,4-Trichlorobenzene	50	52		1	105	70-130	02/22/2010 2153
1,1,1-Trichloroethane	50	47		1	95	70-130	02/22/2010 2153
1,1,2-Trichloroethane	50	46		1	93	70-130	02/22/2010 2153

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28053-002
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	47		1	94	70-130	02/22/2010 2153
Trichlorofluoromethane	50	42		1	84	60-140	02/22/2010 2153
Vinyl chloride	50	42		1	84	60-140	02/22/2010 2153
Xylenes (total)	100	98		1	98	70-130	02/22/2010 2153

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28053-003
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	100	+	1	101	25	46-153	20	02/22/2010 2215
Benzene	50	45		1	90	3.4	70-130	20	02/22/2010 2215
Bromodichloromethane	50	43		1	85	7.3	70-130	20	02/22/2010 2215
Bromoform	50	31	N,+	1	63	21	70-130	20	02/22/2010 2215
Bromomethane (Methyl bromide)	50	44		1	88	9.3	60-140	20	02/22/2010 2215
2-Butanone (MEK)	100	95		1	95	9.5	60-140	20	02/22/2010 2215
Carbon disulfide	50	48		1	96	13	60-140	20	02/22/2010 2215
Carbon tetrachloride	50	41		1	81	14	70-130	20	02/22/2010 2215
Chlorobenzene	50	48		1	95	0.029	70-130	20	02/22/2010 2215
Chloroethane	50	47		1	94	9.7	42-163	20	02/22/2010 2215
Chloroform	50	45		1	90	5.3	70-130	20	02/22/2010 2215
Chloromethane (Methyl chloride)	50	42		1	83	5.0	20-158	20	02/22/2010 2215
Cyclohexane	50	45		1	89	5.9	70-130	20	02/22/2010 2215
1,2-Dibromo-3-chloropropane (DBCP)	50	42		1	83	12	70-130	20	02/22/2010 2215
Dibromochloromethane	50	41		1	83	12	70-130	20	02/22/2010 2215
1,2-Dibromoethane (EDB)	50	48		1	96	0.35	70-130	20	02/22/2010 2215
1,4-Dichlorobenzene	50	47		1	95	2.0	70-130	20	02/22/2010 2215
1,2-Dichlorobenzene	50	47		1	95	3.7	70-130	20	02/22/2010 2215
1,3-Dichlorobenzene	50	48		1	97	0.61	70-130	20	02/22/2010 2215
Dichlorodifluoromethane	50	39	+	1	78	46	60-140	20	02/22/2010 2215
1,2-Dichloroethane	50	45		1	90	5.9	70-130	20	02/22/2010 2215
1,1-Dichloroethane	50	42		1	84	7.5	70-130	20	02/22/2010 2215
cis-1,2-Dichloroethene	50	44		1	87	6.0	70-130	20	02/22/2010 2215
1,1-Dichloroethene	50	47		1	93	4.2	70-130	20	02/22/2010 2215
trans-1,2-Dichloroethene	50	43		1	85	7.7	70-130	20	02/22/2010 2215
1,2-Dichloropropane	50	43		1	86	0.68	70-130	20	02/22/2010 2215
cis-1,3-Dichloropropene	50	43		1	87	3.6	70-130	20	02/22/2010 2215
trans-1,3-Dichloropropene	50	46		1	92	3.7	70-130	20	02/22/2010 2215
Ethylbenzene	50	48		1	96	0.72	70-130	20	02/22/2010 2215
2-Hexanone	100	92		1	92	5.5	60-140	20	02/22/2010 2215
Isopropylbenzene	50	50		1	99	2.6	70-130	20	02/22/2010 2215
Methyl acetate	50	38		1	77	17	15-128	20	02/22/2010 2215
Methyl tertiary butyl ether (MTBE)	50	46		1	93	13	70-130	20	02/22/2010 2215
4-Methyl-2-pentanone	100	91		1	91	3.0	60-140	20	02/22/2010 2215
Methylcyclohexane	50	46		1	91	3.7	70-130	20	02/22/2010 2215
Methylene chloride	50	47		1	93	8.0	70-130	20	02/22/2010 2215
Styrene	50	44		1	89	2.0	70-130	20	02/22/2010 2215
1,1,2,2-Tetrachloroethane	50	45		1	91	3.7	70-130	20	02/22/2010 2215
Tetrachloroethene	50	47		1	95	1.7	70-130	20	02/22/2010 2215
Toluene	50	47		1	94	2.4	70-130	20	02/22/2010 2215
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	47		1	95	6.4	70-130	20	02/22/2010 2215
1,2,4-Trichlorobenzene	50	46		1	91	14	70-130	20	02/22/2010 2215
1,1,1-Trichloroethane	50	44		1	89	6.8	70-130	20	02/22/2010 2215
1,1,2-Trichloroethane	50	46		1	92	1.4	70-130	20	02/22/2010 2215

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28053-003
Batch: 28053
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	46		1	92	1.5	70-130	20	02/22/2010 2215
Trichlorofluoromethane	50	39		1	78	7.8	60-140	20	02/22/2010 2215
Vinyl chloride	50	39		1	77	8.0	60-140	20	02/22/2010 2215
Xylenes (total)	100	95		1	95	3.0	70-130	20	02/22/2010 2215

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28153-001
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/23/2010 2248
Benzene	ND		1	0.50	0.027	ug/L	02/23/2010 2248
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Bromoform	ND		1	0.50	0.010	ug/L	02/23/2010 2248
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/23/2010 2248
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/23/2010 2248
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/23/2010 2248
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/23/2010 2248
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Chloroethane	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Chloroform	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Cyclohexane	ND		1	0.50	0.30	ug/L	02/23/2010 2248
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/23/2010 2248
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/23/2010 2248
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/23/2010 2248
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/23/2010 2248
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/23/2010 2248
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/23/2010 2248
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/23/2010 2248
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/23/2010 2248
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/23/2010 2248
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/23/2010 2248
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/23/2010 2248
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/23/2010 2248
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
2-Hexanone	ND		1	10	0.27	ug/L	02/23/2010 2248
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/23/2010 2248
Methyl acetate	ND		1	1.0	0.30	ug/L	02/23/2010 2248
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/23/2010 2248
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/23/2010 2248
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/23/2010 2248
Methylene chloride	ND		1	0.50	0.17	ug/L	02/23/2010 2248
Styrene	ND		1	0.50	0.015	ug/L	02/23/2010 2248
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/23/2010 2248
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/23/2010 2248
Toluene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/23/2010 2248
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/23/2010 2248
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/23/2010 2248
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/23/2010 2248

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28153-001
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/23/2010 2248
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/23/2010 2248
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/23/2010 2248
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/23/2010 2248

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28153-002
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	95		1	95	46-153	02/23/2010 2116
Benzene	50	44		1	88	70-130	02/23/2010 2116
Bromodichloromethane	50	46		1	92	70-130	02/23/2010 2116
Bromoform	50	44		1	89	70-130	02/23/2010 2116
Bromomethane (Methyl bromide)	50	45		1	90	60-140	02/23/2010 2116
2-Butanone (MEK)	100	110		1	107	60-140	02/23/2010 2116
Carbon disulfide	50	48		1	96	60-140	02/23/2010 2116
Carbon tetrachloride	50	43		1	86	70-130	02/23/2010 2116
Chlorobenzene	50	46		1	93	70-130	02/23/2010 2116
Chloroethane	50	50		1	100	42-163	02/23/2010 2116
Chloroform	50	45		1	89	70-130	02/23/2010 2116
Chloromethane (Methyl chloride)	50	43		1	86	20-158	02/23/2010 2116
Cyclohexane	50	40		1	81	70-130	02/23/2010 2116
1,2-Dibromo-3-chloropropane (DBCP)	50	53		1	106	70-130	02/23/2010 2116
Dibromochloromethane	50	49		1	98	70-130	02/23/2010 2116
1,2-Dibromoethane (EDB)	50	49		1	98	70-130	02/23/2010 2116
1,3-Dichlorobenzene	50	46		1	93	70-130	02/23/2010 2116
1,4-Dichlorobenzene	50	47		1	94	70-130	02/23/2010 2116
1,2-Dichlorobenzene	50	47		1	93	70-130	02/23/2010 2116
Dichlorodifluoromethane	50	39		1	77	60-140	02/23/2010 2116
1,2-Dichloroethane	50	40		1	81	70-130	02/23/2010 2116
1,1-Dichloroethane	50	45		1	90	70-130	02/23/2010 2116
cis-1,2-Dichloroethene	50	47		1	95	70-130	02/23/2010 2116
1,1-Dichloroethene	50	46		1	91	70-130	02/23/2010 2116
trans-1,2-Dichloroethene	50	46		1	92	70-130	02/23/2010 2116
1,2-Dichloropropane	50	47		1	94	70-130	02/23/2010 2116
cis-1,3-Dichloropropene	50	49		1	98	70-130	02/23/2010 2116
trans-1,3-Dichloropropene	50	49		1	98	70-130	02/23/2010 2116
Ethylbenzene	50	48		1	96	70-130	02/23/2010 2116
2-Hexanone	100	110		1	110	60-140	02/23/2010 2116
Isopropylbenzene	50	49		1	98	70-130	02/23/2010 2116
Methyl acetate	50	46		1	92	15-128	02/23/2010 2116
Methyl tertiary butyl ether (MTBE)	50	43		1	86	70-130	02/23/2010 2116
4-Methyl-2-pentanone	100	110		1	107	60-140	02/23/2010 2116
Methylcyclohexane	50	49		1	98	70-130	02/23/2010 2116
Methylene chloride	50	47		1	94	70-130	02/23/2010 2116
Styrene	50	54		1	108	70-130	02/23/2010 2116
1,1,2,2-Tetrachloroethane	50	53		1	107	70-130	02/23/2010 2116
Tetrachloroethene	50	48		1	95	70-130	02/23/2010 2116
Toluene	50	47		1	95	70-130	02/23/2010 2116
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	48		1	96	70-130	02/23/2010 2116
1,2,4-Trichlorobenzene	50	48		1	97	70-130	02/23/2010 2116
1,1,1-Trichloroethane	50	42		1	85	70-130	02/23/2010 2116
1,1,2-Trichloroethane	50	48		1	96	70-130	02/23/2010 2116

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28153-002
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	46		1	91	70-130	02/23/2010 2116
Trichlorofluoromethane	50	44		1	87	60-140	02/23/2010 2116
Vinyl chloride	50	43		1	86	60-140	02/23/2010 2116
Xylenes (total)	100	96		1	96	70-130	02/23/2010 2116

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		84	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28153-003
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	86		1	86	9.2	46-153	20	02/23/2010 2139
Benzene	50	46		1	91	3.7	70-130	20	02/23/2010 2139
Bromodichloromethane	50	49		1	97	5.3	70-130	20	02/23/2010 2139
Bromoform	50	46		1	92	3.2	70-130	20	02/23/2010 2139
Bromomethane (Methyl bromide)	50	47		1	94	4.4	60-140	20	02/23/2010 2139
2-Butanone (MEK)	100	100		1	103	3.6	60-140	20	02/23/2010 2139
Carbon disulfide	50	49		1	97	0.97	60-140	20	02/23/2010 2139
Carbon tetrachloride	50	46		1	91	5.7	70-130	20	02/23/2010 2139
Chlorobenzene	50	48		1	95	2.9	70-130	20	02/23/2010 2139
Chloroethane	50	52		1	103	3.5	42-163	20	02/23/2010 2139
Chloroform	50	46		1	93	3.8	70-130	20	02/23/2010 2139
Chloromethane (Methyl chloride)	50	45		1	90	3.8	20-158	20	02/23/2010 2139
Cyclohexane	50	42		1	83	3.3	70-130	20	02/23/2010 2139
1,2-Dibromo-3-chloropropane (DBCP)	50	57		1	113	6.5	70-130	20	02/23/2010 2139
Dibromochloromethane	50	51		1	102	3.2	70-130	20	02/23/2010 2139
1,2-Dibromoethane (EDB)	50	50		1	100	1.7	70-130	20	02/23/2010 2139
1,3-Dichlorobenzene	50	49		1	97	4.8	70-130	20	02/23/2010 2139
1,4-Dichlorobenzene	50	48		1	96	2.0	70-130	20	02/23/2010 2139
1,2-Dichlorobenzene	50	49		1	97	3.8	70-130	20	02/23/2010 2139
Dichlorodifluoromethane	50	39		1	79	1.7	60-140	20	02/23/2010 2139
1,2-Dichloroethane	50	42		1	84	4.3	70-130	20	02/23/2010 2139
1,1-Dichloroethane	50	46		1	91	1.6	70-130	20	02/23/2010 2139
cis-1,2-Dichloroethene	50	48		1	96	1.7	70-130	20	02/23/2010 2139
1,1-Dichloroethene	50	46		1	92	1.1	70-130	20	02/23/2010 2139
trans-1,2-Dichloroethene	50	47		1	94	2.3	70-130	20	02/23/2010 2139
1,2-Dichloropropane	50	48		1	96	1.9	70-130	20	02/23/2010 2139
cis-1,3-Dichloropropene	50	50		1	100	2.6	70-130	20	02/23/2010 2139
trans-1,3-Dichloropropene	50	49		1	98	0.28	70-130	20	02/23/2010 2139
Ethylbenzene	50	49		1	98	2.6	70-130	20	02/23/2010 2139
2-Hexanone	100	110		1	110	0.69	60-140	20	02/23/2010 2139
Isopropylbenzene	50	52		1	104	5.2	70-130	20	02/23/2010 2139
Methyl acetate	50	46		1	91	1.2	15-128	20	02/23/2010 2139
Methyl tertiary butyl ether (MTBE)	50	44		1	88	1.3	70-130	20	02/23/2010 2139
4-Methyl-2-pentanone	100	110		1	111	3.8	60-140	20	02/23/2010 2139
Methylcyclohexane	50	51		1	102	4.3	70-130	20	02/23/2010 2139
Methylene chloride	50	48		1	96	2.2	70-130	20	02/23/2010 2139
Styrene	50	55		1	110	2.1	70-130	20	02/23/2010 2139
1,1,2,2-Tetrachloroethane	50	55		1	110	3.0	70-130	20	02/23/2010 2139
Tetrachloroethene	50	49		1	97	2.1	70-130	20	02/23/2010 2139
Toluene	50	49		1	98	2.9	70-130	20	02/23/2010 2139
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	98	3.0	70-130	20	02/23/2010 2139
1,2,4-Trichlorobenzene	50	52		1	104	6.8	70-130	20	02/23/2010 2139
1,1,1-Trichloroethane	50	45		1	90	5.6	70-130	20	02/23/2010 2139
1,1,2-Trichloroethane	50	48		1	97	0.83	70-130	20	02/23/2010 2139

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28153-003
Batch: 28153
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	48		1	95	4.3	70-130	20	02/23/2010 2139
Trichlorofluoromethane	50	46		1	91	4.2	60-140	20	02/23/2010 2139
Vinyl chloride	50	46		1	91	6.6	60-140	20	02/23/2010 2139
Xylenes (total)	100	100		1	100	4.0	70-130	20	02/23/2010 2139

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28164-001
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	02/24/2010 0955
Benzene	ND		1	0.50	0.027	ug/L	02/24/2010 0955
Bromodichloromethane	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Bromoform	ND		1	0.50	0.010	ug/L	02/24/2010 0955
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	02/24/2010 0955
2-Butanone (MEK)	ND		1	10	2.0	ug/L	02/24/2010 0955
Carbon disulfide	ND		1	0.50	0.097	ug/L	02/24/2010 0955
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	02/24/2010 0955
Chlorobenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Chloroethane	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Chloroform	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Cyclohexane	ND		1	0.50	0.30	ug/L	02/24/2010 0955
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	02/24/2010 0955
Dibromochloromethane	ND		1	0.50	0.17	ug/L	02/24/2010 0955
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	02/24/2010 0955
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	02/24/2010 0955
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	02/24/2010 0955
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	02/24/2010 0955
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	02/24/2010 0955
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	02/24/2010 0955
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	02/24/2010 0955
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	02/24/2010 0955
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	02/24/2010 0955
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	02/24/2010 0955
Ethylbenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
2-Hexanone	ND		1	10	0.27	ug/L	02/24/2010 0955
Isopropylbenzene	ND		1	0.50	0.029	ug/L	02/24/2010 0955
Methyl acetate	ND		1	1.0	0.30	ug/L	02/24/2010 0955
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	02/24/2010 0955
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	02/24/2010 0955
Methylcyclohexane	ND		1	5.0	0.95	ug/L	02/24/2010 0955
Methylene chloride	ND		1	0.50	0.17	ug/L	02/24/2010 0955
Styrene	ND		1	0.50	0.015	ug/L	02/24/2010 0955
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	02/24/2010 0955
Tetrachloroethene	ND		1	0.50	0.014	ug/L	02/24/2010 0955
Toluene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	02/24/2010 0955
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	02/24/2010 0955
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	02/24/2010 0955
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	02/24/2010 0955

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ28164-001
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	02/24/2010 0955
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	02/24/2010 0955
Vinyl chloride	ND		1	0.50	0.065	ug/L	02/24/2010 0955
Xylenes (total)	ND		1	0.50	0.17	ug/L	02/24/2010 0955

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28164-002
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	94		1	94	46-153	02/24/2010 0824
Benzene	50	46		1	93	70-130	02/24/2010 0824
Bromodichloromethane	50	46		1	93	70-130	02/24/2010 0824
Bromoform	50	43		1	87	70-130	02/24/2010 0824
Bromomethane (Methyl bromide)	50	46		1	92	60-140	02/24/2010 0824
2-Butanone (MEK)	100	110		1	106	60-140	02/24/2010 0824
Carbon disulfide	50	52		1	105	60-140	02/24/2010 0824
Carbon tetrachloride	50	48		1	96	70-130	02/24/2010 0824
Chlorobenzene	50	48		1	95	70-130	02/24/2010 0824
Chloroethane	50	54		1	108	42-163	02/24/2010 0824
Chloroform	50	46		1	92	70-130	02/24/2010 0824
Chloromethane (Methyl chloride)	50	46		1	92	20-158	02/24/2010 0824
Cyclohexane	50	48		1	96	70-130	02/24/2010 0824
1,2-Dibromo-3-chloropropane (DBCP)	50	52		1	105	70-130	02/24/2010 0824
Dibromochloromethane	50	49		1	98	70-130	02/24/2010 0824
1,2-Dibromoethane (EDB)	50	50		1	100	70-130	02/24/2010 0824
1,4-Dichlorobenzene	50	47		1	95	70-130	02/24/2010 0824
1,2-Dichlorobenzene	50	48		1	95	70-130	02/24/2010 0824
1,3-Dichlorobenzene	50	48		1	96	70-130	02/24/2010 0824
Dichlorodifluoromethane	50	44		1	88	60-140	02/24/2010 0824
1,2-Dichloroethane	50	41		1	82	70-130	02/24/2010 0824
1,1-Dichloroethane	50	47		1	93	70-130	02/24/2010 0824
cis-1,2-Dichloroethene	50	48		1	96	70-130	02/24/2010 0824
1,1-Dichloroethene	50	50		1	101	70-130	02/24/2010 0824
trans-1,2-Dichloroethene	50	48		1	97	70-130	02/24/2010 0824
1,2-Dichloropropane	50	48		1	97	70-130	02/24/2010 0824
cis-1,3-Dichloropropene	50	50		1	99	70-130	02/24/2010 0824
trans-1,3-Dichloropropene	50	48		1	97	70-130	02/24/2010 0824
Ethylbenzene	50	51		1	101	70-130	02/24/2010 0824
2-Hexanone	100	110		1	108	60-140	02/24/2010 0824
Isopropylbenzene	50	52		1	104	70-130	02/24/2010 0824
Methyl acetate	50	46		1	93	15-128	02/24/2010 0824
Methyl tertiary butyl ether (MTBE)	50	43		1	87	70-130	02/24/2010 0824
4-Methyl-2-pentanone	100	110		1	108	60-140	02/24/2010 0824
Methylcyclohexane	50	58		1	116	70-130	02/24/2010 0824
Methylene chloride	50	49		1	98	70-130	02/24/2010 0824
Styrene	50	56		1	111	70-130	02/24/2010 0824
1,1,2,2-Tetrachloroethane	50	53		1	106	70-130	02/24/2010 0824
Tetrachloroethene	50	51		1	102	70-130	02/24/2010 0824
Toluene	50	50		1	100	70-130	02/24/2010 0824
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	56		1	112	70-130	02/24/2010 0824
1,2,4-Trichlorobenzene	50	49		1	98	70-130	02/24/2010 0824
1,1,2-Trichloroethane	50	48		1	97	70-130	02/24/2010 0824
1,1,1-Trichloroethane	50	46		1	92	70-130	02/24/2010 0824

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ28164-002
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	49		1	97	70-130	02/24/2010 0824
Trichlorofluoromethane	50	51		1	102	60-140	02/24/2010 0824
Vinyl chloride	50	48		1	95	60-140	02/24/2010 0824
Xylenes (total)	100	100		1	100	70-130	02/24/2010 0824

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		81	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28164-003
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	88		1	88	6.4	46-153	20	02/24/2010 0847
Benzene	50	46		1	92	0.24	70-130	20	02/24/2010 0847
Bromodichloromethane	50	48		1	96	3.5	70-130	20	02/24/2010 0847
Bromoform	50	44		1	88	1.1	70-130	20	02/24/2010 0847
Bromomethane (Methyl bromide)	50	47		1	95	2.5	60-140	20	02/24/2010 0847
2-Butanone (MEK)	100	110		1	105	0.97	60-140	20	02/24/2010 0847
Carbon disulfide	50	50		1	100	5.2	60-140	20	02/24/2010 0847
Carbon tetrachloride	50	48		1	96	0.40	70-130	20	02/24/2010 0847
Chlorobenzene	50	48		1	96	0.91	70-130	20	02/24/2010 0847
Chloroethane	50	52		1	104	3.7	42-163	20	02/24/2010 0847
Chloroform	50	47		1	94	2.2	70-130	20	02/24/2010 0847
Chloromethane (Methyl chloride)	50	45		1	90	2.2	20-158	20	02/24/2010 0847
Cyclohexane	50	44		1	88	8.4	70-130	20	02/24/2010 0847
1,2-Dibromo-3-chloropropane (DBCP)	50	54		1	108	2.5	70-130	20	02/24/2010 0847
Dibromochloromethane	50	50		1	100	1.6	70-130	20	02/24/2010 0847
1,2-Dibromoethane (EDB)	50	50		1	100	0.16	70-130	20	02/24/2010 0847
1,4-Dichlorobenzene	50	48		1	96	1.5	70-130	20	02/24/2010 0847
1,2-Dichlorobenzene	50	48		1	96	1.2	70-130	20	02/24/2010 0847
1,3-Dichlorobenzene	50	48		1	95	0.32	70-130	20	02/24/2010 0847
Dichlorodifluoromethane	50	39		1	77	13	60-140	20	02/24/2010 0847
1,2-Dichloroethane	50	42		1	84	2.3	70-130	20	02/24/2010 0847
1,1-Dichloroethane	50	47		1	94	0.27	70-130	20	02/24/2010 0847
cis-1,2-Dichloroethene	50	48		1	97	1.1	70-130	20	02/24/2010 0847
1,1-Dichloroethene	50	48		1	96	4.8	70-130	20	02/24/2010 0847
trans-1,2-Dichloroethene	50	48		1	96	1.0	70-130	20	02/24/2010 0847
1,2-Dichloropropane	50	48		1	96	0.22	70-130	20	02/24/2010 0847
cis-1,3-Dichloropropene	50	51		1	102	2.2	70-130	20	02/24/2010 0847
trans-1,3-Dichloropropene	50	49		1	97	0.36	70-130	20	02/24/2010 0847
Ethylbenzene	50	50		1	101	0.86	70-130	20	02/24/2010 0847
2-Hexanone	100	110		1	108	0.55	60-140	20	02/24/2010 0847
Isopropylbenzene	50	52		1	104	0.40	70-130	20	02/24/2010 0847
Methyl acetate	50	44		1	88	5.8	15-128	20	02/24/2010 0847
Methyl tertiary butyl ether (MTBE)	50	44		1	88	0.98	70-130	20	02/24/2010 0847
4-Methyl-2-pentanone	100	110		1	109	0.87	60-140	20	02/24/2010 0847
Methylcyclohexane	50	53		1	105	9.8	70-130	20	02/24/2010 0847
Methylene chloride	50	49		1	98	0.73	70-130	20	02/24/2010 0847
Styrene	50	56		1	111	0.28	70-130	20	02/24/2010 0847
1,1,2,2-Tetrachloroethane	50	54		1	107	0.90	70-130	20	02/24/2010 0847
Tetrachloroethene	50	49		1	99	3.2	70-130	20	02/24/2010 0847
Toluene	50	50		1	100	0.43	70-130	20	02/24/2010 0847
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	52		1	103	8.6	70-130	20	02/24/2010 0847
1,2,4-Trichlorobenzene	50	50		1	100	2.5	70-130	20	02/24/2010 0847
1,1,2-Trichloroethane	50	49		1	97	0.62	70-130	20	02/24/2010 0847
1,1,1-Trichloroethane	50	46		1	92	0.0043	70-130	20	02/24/2010 0847

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ28164-003
Batch: 28164
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	49		1	97	0.089	70-130	20	02/24/2010 0847
Trichlorofluoromethane	50	48		1	96	6.6	60-140	20	02/24/2010 0847
Vinyl chloride	50	46		1	91	4.2	60-140	20	02/24/2010 0847
Xylenes (total)	100	100		1	101	0.17	70-130	20	02/24/2010 0847

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

ICP-AES - MB

Sample ID: LQ28103-001
Batch: 28103
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 02/23/2010 1710

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Barium	ND		1	0.025	0.0075	mg/L	02/23/2010 2135
Chromium	ND		1	0.0050	0.0021	mg/L	02/23/2010 2135

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

ICP-AES - LCS

Sample ID: LQ28103-002
Batch: 28103
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 02/23/2010 1710

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Barium	2.0	2.0		1	101	80-120	02/23/2010 2141
Chromium	2.0	2.0		1	99	80-120	02/23/2010 2141

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

ICP-AES - LCSD

Sample ID: LQ28103-003
Batch: 28103
Analytical Method: 6010C

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 02/23/2010 1710

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Barium	2.0	2.0		1	101	0.44	80-120	20	02/23/2010 2147
Chromium	2.0	2.0		1	99	0.27	80-120	20	02/23/2010 2147

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 105919

Client	Report to Contact	Telephone No. / Fax No. / E-mail	Quote No.
Arcadis	Janet Christy	770-2916-1259	
Address	**Sampler's Signature**	**Waybill No.**	Page 1 of 2
2849 Paces Ferry Rd	X		
City / State / Zip Code	**Printed Name**	**Analysis (Attach list if more space is needed.)**	
Atlanta / GA / 30339	Ryan Kontos		
Project Name			
Hunter H17 Report			

Project No.	P.O. No.
6P08HAFS.H17B.DG0F1	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	Ascb Acid	VOCs (SW8260B)
MW-5D (2-16-10)	2/16/10	0839	G	X						X			3
MW-5S (2-16-10)		0932	G	X						X			3
MW-13D (2-16-10)		1103	G	X						X			3
MW-13S (2-16-10)		1148	G	X						X			3
MW-9S (2-16-10)		1247	G	X						X			3
MW-9D (2-16-10)		1337	G	X						X			3
MW-8S (2-16-10)		1453	G	X						X			3
MW-8D (2-16-10)		1546	G	X						X			3

LB18061
Lot No. 2/16/10
LB12007
Remarks / Cooler I.D.

Possible Hazard Identification
[X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison [ ] Unknown

Sample Disposal
[ ] Return to Client [X] Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.)
[X] Standard [ ] Rush (Specify)

QC Requirements (Specify)

1. Relinquished by	Date	Time	1. Received by	Date	Time
	2/17/10	1830			
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by FED EX	Date 2/18/10	Time 0910	3. Laboratory received by	Date 2/18/10	Time 0910

Comments:

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack

Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY **Chain of Custody Record**

Number 105923

Client	Report to Contact	Telephone No. / Fax No. / E-mail	Quote No.
Arcadis	Janet Christy	770-296-1259	
Address	**Sampler's Signature**	**Waybill No.**	Page 2 of 2
2849 Paces Ferry Rd			
City / **State** / **Zip Code**	**Printed Name**	Analysis (Attach list if more space is needed.)	
Atlanta / GA / 30339	Ryan Kontos		
Project Name			
Hunter H17 Report			

| Project No. | P.O. No. | | G=Grab C=Composite | Matrix | | | No. of Containers by Preservative Type | | | | | | VOCs (SW8260B) | Barium & Total Chromium 6010 | | | | | |

LB318061

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: ARCADIS Cooler Inspected by/date: NAL / 2/18/10 Lot #: ~~LB12607~~ MAL 4/8/10 LB318061

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.0 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☑ Temperature Blank ☐ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☑	No ☐	NA ☐	15. Were there any excess samples not listed on COC? TRIP BLANK
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 105920

Client	Report to Contact	Telephone No. / Fax No. / E-mail	Quote No.
Arcadis	Janet Christy	770-296-1259	
Address	Sampler's Signature	Waybill No.	Page 1 of 1
2849 Paces Ferry Rd	X		
City / State / Zip Code	Printed Name	Analysis (Attach list if more space is needed.)	
Atlanta GA 30339	Ryan Kontos		
Project Name			
Hunter H17 Report			

Project No.	P.O. No.
GP08HAFS. H17B. 0600F1	

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab/Comp	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	VOCs (SW8260B)	Lot No. / Remarks / Cooler I.D.
MW-15S (2-19-10)	2-19-10	0922		X						X			3	LB18061
Trip Blank													2	

Possible Hazard Identification
X Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client X Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.)
X Standard ☐ Rush (Specify)

QC Requirements (Specify)

1. Relinquished by	Date	Time	1. Received by	Date	Time
	2/19/10	1300			
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by FedEx	Date 2-20-10	Time 1040	3. Laboratory received by	Date 2-20-10	Time 1040
Comments			LAB USE ONLY Received on ice (Circle) Yes No Ice Pack	Receipt Temp. 1.6 °C	

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-09

SHEALY ENVIRONMENTAL SERVICES, INC.
Shealy Environmental Services, Inc. 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: ee 7/30/10 Lot #: LB1061

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

☑ Yes	☐ No	☐ NA	1. Were custody seals present on the cooler?
☐ Yes	☑ No	☐ NA	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.6 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

☐ Yes	☐ No	☑ NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
☐ Yes	☑ No	☐ NA	4. Is the commercial courier's packing slip attached to this form?
☐ Yes	☑ No	☐ NA	5. Were proper custody procedures (relinquished/received) followed?
☑ Yes	☐ No	☐ NA	6. Were sample IDs listed?
☑ Yes	☐ No	☐ NA	7. Was collection date & time listed?
☑ Yes	☐ No	☐ NA	8. Were tests to be performed listed on the COC or was quote # provided?
☑ Yes	☐ No	☐ NA	9. Did all samples arrive in the proper containers for each test?
☑ Yes	☐ No	☐ NA	10. Did all container label information (ID, date, time) agree with COC?
☑ Yes	☐ No	☐ NA	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
☑ Yes	☐ No	☐ NA	12. Was adequate sample volume available?
☑ Yes	☐ No	☐ NA	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☐ Yes	☑ No	☐ NA	14. Were any samples containers missing?
☐ Yes	☑ No	☐ NA	15. Were there any excess samples not listed on COC?
☐ Yes	☑ No	☐ NA	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
☐ Yes	☐ No	☑ NA	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
☐ Yes	☐ No	☑ NA	18. Were all cyanide and/or sulfide samples received at a pH >12?
☐ Yes	☐ No	☑ NA	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
☐ Yes	☐ No	☑ NA	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO$_3$,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Chase Forman

Project Name: Hunter Stewart HAA-17

Project Number: GP08HAFS.H17B.DG0F1

Lot Number: LE28018

Date Completed: 06/03/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

* L E 2 8 0 1 8 *

Case Narrative
ARCADIS U.S., Inc.
Lot Number: LE28018

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The LCS/LCSD recovery for Dichlorodifluoromethane exceeded method control limits in batch 34942; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were non-detect, therefore the results were reported and no corrective action was required.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: LE28018

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-MW-17S (052510)	Aqueous	05/25/2010 0912	05/28/2010
002	H17-MW-17D (052510)	Aqueous	05/25/2010 1135	05/28/2010
003	H17-MW-21D (052510)	Aqueous	05/25/2010 1233	05/28/2010
004	H17-MW-21S (052510)	Aqueous	05/25/2010 1325	05/28/2010
005	H17-MW-22S (052510)	Aqueous	05/25/2010 1542	05/28/2010
006	H17-MW-22D (052510)	Aqueous	05/25/2010 1642	05/28/2010
007	H17-MW-20D (052510)	Aqueous	05/25/2010 1735	05/28/2010
008	H17-MW-19S (052510)	Aqueous	05/25/2010 1827	05/28/2010
009	H17-MW-18D (052510)	Aqueous	05/25/2010 1947	05/28/2010
010	H17-DUP-1 (052510)	Aqueous	05/25/2010 1200	05/28/2010
011	TB-01 (052510)	Aqueous	05/25/2010 0900	05/28/2010

(11 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: LE28018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-MW-17S (052510)	Aqueous	Acetone	8260B	28		ug/L	5
001	H17-MW-17S (052510)	Aqueous	Benzene	8260B	0.18	J	ug/L	5
001	H17-MW-17S (052510)	Aqueous	Chloroethane	8260B	0.69		ug/L	5
001	H17-MW-17S (052510)	Aqueous	4-Methyl-2-pentanone	8260B	3.5	J	ug/L	5
002	H17-MW-17D (052510)	Aqueous	Acetone	8260B	4.6	J	ug/L	7
002	H17-MW-17D (052510)	Aqueous	Carbon disulfide	8260B	1.9		ug/L	7
003	H17-MW-21D (052510)	Aqueous	Acetone	8260B	1.5	J	ug/L	9
004	H17-MW-21S (052510)	Aqueous	Acetone	8260B	1.9	J	ug/L	11
005	H17-MW-22S (052510)	Aqueous	Acetone	8260B	3.7	J	ug/L	13
007	H17-MW-20D (052510)	Aqueous	trans-1,2-Dichloroethene	8260B	0.70		ug/L	17
007	H17-MW-20D (052510)	Aqueous	1,1-Dichloroethene	8260B	0.94		ug/L	17
007	H17-MW-20D (052510)	Aqueous	cis-1,2-Dichloroethene	8260B	59		ug/L	17
007	H17-MW-20D (052510)	Aqueous	Trichloroethene	8260B	280		ug/L	18
008	H17-MW-19S (052510)	Aqueous	Acetone	8260B	5.1	J	ug/L	19
008	H17-MW-19S (052510)	Aqueous	Toluene	8260B	0.24	J	ug/L	19
009	H17-MW-18D (052510)	Aqueous	Benzene	8260B	5.2		ug/L	21
009	H17-MW-18D (052510)	Aqueous	cis-1,2-Dichloroethene	8260B	1.1		ug/L	21
009	H17-MW-18D (052510)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	3.6		ug/L	21
009	H17-MW-18D (052510)	Aqueous	Trichloroethene	8260B	2.6		ug/L	22

(19 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-001
Description: H17-MW-17S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 0912
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2310	DLB		34838
2	5030B	8260B	1	06/02/2010 0353	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	28		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.18	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	0.69		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	3.5	J	10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-001
Description: H17-MW-17S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 0912
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2310	DLB		34838
2	5030B	8260B	1	06/02/2010 0353	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130		97	70-130
Bromofluorobenzene		99	70-130		100	70-130
Toluene-d8		104	70-130		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-002
Description: H17-MW-17D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1135
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2331	DLB		34838
2	5030B	8260B	1	06/02/2010 0415	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	4.6	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	1.9		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-002
Description: H17-MW-17D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1135
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2331	DLB		34838
2	5030B	8260B	1	06/02/2010 0415	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		99	70-130		97	70-130
Bromofluorobenzene		96	70-130		97	70-130
Toluene-d8		99	70-130		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-003
Description: H17-MW-21D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1233
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2353	DLB		34838
2	5030B	8260B	1	06/02/2010 0436	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.5	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-003
Description: H17-MW-21D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1233
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/31/2010 2353	DLB		34838
2	5030B	8260B	1	06/02/2010 0436	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130		97	70-130
Bromofluorobenzene		97	70-130		99	70-130
Toluene-d8		101	70-130		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-004
Description: H17-MW-21S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1325
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0014	DLB		34838
2	5030B	8260B	1	06/02/2010 0458	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.9	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-004
Description: H17-MW-21S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1325
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0014	DLB		34838
2	5030B	8260B	1	06/02/2010 0458	DLB		34942

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130		97	70-130
Bromofluorobenzene		97	70-130		99	70-130
Toluene-d8		101	70-130		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-005
Description: H17-MW-22S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1542
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0114	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	3.7	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-005
Description: H17-MW-22S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1542
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0114	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-006
Description: H17-MW-22D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1642
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0137	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-006
Description: H17-MW-22D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1642
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0137	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-007
Description: H17-MW-20D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1735
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0200	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	0.70		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.94		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	59		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-007
Description: H17-MW-20D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1735
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0200	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	280		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-008
Description: H17-MW-19S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1827
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0224	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	5.1	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	0.24	J	0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-008
Description: H17-MW-19S (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1827
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0224	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-009
Description: H17-MW-18D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1947
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0247	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	5.2		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	1.1		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	3.6		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-009
Description: H17-MW-18D (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1947
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0247	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	2.6		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-010
Description: H17-DUP-1 (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1200
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0310	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-010
Description: H17-DUP-1 (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 1200
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0310	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-011
Description: TB-01 (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 0900
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0334	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LE28018-011
Description: TB-01 (052510)
Matrix: Aqueous
Date Sampled: 05/25/2010 0900
Date Received: 05/28/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/01/2010 0334	DLB		34873

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ34838-001
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	05/31/2010 1834
Benzene	ND		1	0.50	0.027	ug/L	05/31/2010 1834
Bromodichloromethane	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Bromoform	ND		1	0.50	0.010	ug/L	05/31/2010 1834
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	05/31/2010 1834
2-Butanone (MEK)	ND		1	10	2.0	ug/L	05/31/2010 1834
Carbon disulfide	ND		1	0.50	0.097	ug/L	05/31/2010 1834
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	05/31/2010 1834
Chlorobenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Chloroethane	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Chloroform	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Cyclohexane	ND		1	0.50	0.30	ug/L	05/31/2010 1834
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	05/31/2010 1834
Dibromochloromethane	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	05/31/2010 1834
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	05/31/2010 1834
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	05/31/2010 1834
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	05/31/2010 1834
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	05/31/2010 1834
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	05/31/2010 1834
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	05/31/2010 1834
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	05/31/2010 1834
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	05/31/2010 1834
Ethylbenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
2-Hexanone	ND		1	10	0.27	ug/L	05/31/2010 1834
Isopropylbenzene	ND		1	0.50	0.029	ug/L	05/31/2010 1834
Methyl acetate	ND		1	1.0	0.30	ug/L	05/31/2010 1834
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	05/31/2010 1834
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	05/31/2010 1834
Methylcyclohexane	ND		1	5.0	0.95	ug/L	05/31/2010 1834
Methylene chloride	ND		1	0.50	0.17	ug/L	05/31/2010 1834
Styrene	ND		1	0.50	0.015	ug/L	05/31/2010 1834
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	05/31/2010 1834
Tetrachloroethene	ND		1	0.50	0.014	ug/L	05/31/2010 1834
Toluene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	05/31/2010 1834
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	05/31/2010 1834
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	05/31/2010 1834
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	05/31/2010 1834
Trichloroethene	ND		1	0.50	0.024	ug/L	05/31/2010 1834

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ34838-001
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	05/31/2010 1834
Vinyl chloride	ND		1	0.50	0.065	ug/L	05/31/2010 1834
Xylenes (total)	ND		1	0.50	0.17	ug/L	05/31/2010 1834

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ34838-002
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	95		1	95	46-153	05/31/2010 1708
Benzene	50	44		1	88	70-130	05/31/2010 1708
Bromodichloromethane	50	42		1	84	70-130	05/31/2010 1708
Bromoform	50	42		1	85	70-130	05/31/2010 1708
Bromomethane (Methyl bromide)	50	51		1	102	60-140	05/31/2010 1708
2-Butanone (MEK)	100	95		1	95	60-140	05/31/2010 1708
Carbon disulfide	50	49		1	99	60-140	05/31/2010 1708
Carbon tetrachloride	50	48		1	95	70-130	05/31/2010 1708
Chlorobenzene	50	45		1	91	70-130	05/31/2010 1708
Chloroethane	50	49		1	98	42-163	05/31/2010 1708
Chloroform	50	43		1	87	70-130	05/31/2010 1708
Chloromethane (Methyl chloride)	50	56		1	112	20-158	05/31/2010 1708
Cyclohexane	50	43		1	85	70-130	05/31/2010 1708
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	92	70-130	05/31/2010 1708
Dibromochloromethane	50	43		1	87	70-130	05/31/2010 1708
1,2-Dibromoethane (EDB)	50	48		1	96	70-130	05/31/2010 1708
1,4-Dichlorobenzene	50	46		1	91	70-130	05/31/2010 1708
1,2-Dichlorobenzene	50	45		1	90	70-130	05/31/2010 1708
1,3-Dichlorobenzene	50	46		1	91	70-130	05/31/2010 1708
1,1-Dichloroethane	50	43		1	85	70-130	05/31/2010 1708
1,2-Dichloroethane	50	43		1	87	70-130	05/31/2010 1708
1,1-Dichloroethene	50	44		1	88	70-130	05/31/2010 1708
trans-1,2-Dichloroethene	50	44		1	87	70-130	05/31/2010 1708
cis-1,2-Dichloroethene	50	44		1	87	70-130	05/31/2010 1708
1,2-Dichloropropane	50	44		1	88	70-130	05/31/2010 1708
trans-1,3-Dichloropropene	50	43		1	87	70-130	05/31/2010 1708
cis-1,3-Dichloropropene	50	49		1	97	70-130	05/31/2010 1708
Ethylbenzene	50	46		1	91	70-130	05/31/2010 1708
2-Hexanone	100	100		1	102	60-140	05/31/2010 1708
Isopropylbenzene	50	47		1	94	70-130	05/31/2010 1708
Methyl acetate	50	47		1	94	15-128	05/31/2010 1708
Methyl tertiary butyl ether (MTBE)	50	46		1	91	70-130	05/31/2010 1708
4-Methyl-2-pentanone	100	97		1	97	60-140	05/31/2010 1708
Methylcyclohexane	50	49		1	97	70-130	05/31/2010 1708
Methylene chloride	50	42		1	84	70-130	05/31/2010 1708
Styrene	50	42		1	84	70-130	05/31/2010 1708
1,1,2,2-Tetrachloroethane	50	47		1	95	70-130	05/31/2010 1708
Tetrachloroethene	50	48		1	95	70-130	05/31/2010 1708
Toluene	50	45		1	90	70-130	05/31/2010 1708
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	100	70-130	05/31/2010 1708
1,2,4-Trichlorobenzene	50	48		1	95	70-130	05/31/2010 1708
1,1,1-Trichloroethane	50	45		1	91	70-130	05/31/2010 1708
1,1,2-Trichloroethane	50	46		1	93	70-130	05/31/2010 1708
Trichloroethene	50	46		1	92	70-130	05/31/2010 1708

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ34838-002
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichlorofluoromethane	50	54		1	108	60-140	05/31/2010 1708
Vinyl chloride	50	53		1	105	60-140	05/31/2010 1708
Xylenes (total)	100	92		1	92	70-130	05/31/2010 1708

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ34838-003
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	84		1	84	13	46-153	20	05/31/2010 1730
Benzene	50	44		1	89	0.74	70-130	20	05/31/2010 1730
Bromodichloromethane	50	43		1	85	1.0	70-130	20	05/31/2010 1730
Bromoform	50	43		1	85	1.0	70-130	20	05/31/2010 1730
Bromomethane (Methyl bromide)	50	51		1	102	0.026	60-140	20	05/31/2010 1730
2-Butanone (MEK)	100	92		1	92	3.0	60-140	20	05/31/2010 1730
Carbon disulfide	50	49		1	98	0.80	60-140	20	05/31/2010 1730
Carbon tetrachloride	50	48		1	95	0.017	70-130	20	05/31/2010 1730
Chlorobenzene	50	46		1	92	1.0	70-130	20	05/31/2010 1730
Chloroethane	50	49		1	98	0.69	42-163	20	05/31/2010 1730
Chloroform	50	43		1	86	0.77	70-130	20	05/31/2010 1730
Chloromethane (Methyl chloride)	50	55		1	109	2.7	20-158	20	05/31/2010 1730
Cyclohexane	50	41		1	82	3.3	70-130	20	05/31/2010 1730
1,2-Dibromo-3-chloropropane (DBCP)	50	44		1	87	5.5	70-130	20	05/31/2010 1730
Dibromochloromethane	50	43		1	87	0.17	70-130	20	05/31/2010 1730
1,2-Dibromoethane (EDB)	50	49		1	97	1.2	70-130	20	05/31/2010 1730
1,4-Dichlorobenzene	50	46		1	92	1.4	70-130	20	05/31/2010 1730
1,2-Dichlorobenzene	50	46		1	92	1.8	70-130	20	05/31/2010 1730
1,3-Dichlorobenzene	50	46		1	92	0.90	70-130	20	05/31/2010 1730
1,1-Dichloroethane	50	42		1	85	0.80	70-130	20	05/31/2010 1730
1,2-Dichloroethane	50	44		1	87	0.39	70-130	20	05/31/2010 1730
1,1-Dichloroethene	50	44		1	87	1.1	70-130	20	05/31/2010 1730
trans-1,2-Dichloroethene	50	43		1	86	1.7	70-130	20	05/31/2010 1730
cis-1,2-Dichloroethene	50	44		1	88	0.43	70-130	20	05/31/2010 1730
1,2-Dichloropropane	50	44		1	87	0.44	70-130	20	05/31/2010 1730
trans-1,3-Dichloropropene	50	44		1	87	0.43	70-130	20	05/31/2010 1730
cis-1,3-Dichloropropene	50	49		1	99	1.4	70-130	20	05/31/2010 1730
Ethylbenzene	50	46		1	92	0.94	70-130	20	05/31/2010 1730
2-Hexanone	100	100		1	100	2.4	60-140	20	05/31/2010 1730
Isopropylbenzene	50	48		1	96	1.7	70-130	20	05/31/2010 1730
Methyl acetate	50	43		1	86	9.3	15-128	20	05/31/2010 1730
Methyl tertiary butyl ether (MTBE)	50	45		1	91	0.61	70-130	20	05/31/2010 1730
4-Methyl-2-pentanone	100	96		1	96	1.3	60-140	20	05/31/2010 1730
Methylcyclohexane	50	49		1	97	0.32	70-130	20	05/31/2010 1730
Methylene chloride	50	42		1	84	0.36	70-130	20	05/31/2010 1730
Styrene	50	42		1	84	0.96	70-130	20	05/31/2010 1730
1,1,2,2-Tetrachloroethane	50	47		1	93	1.3	70-130	20	05/31/2010 1730
Tetrachloroethene	50	48		1	96	0.38	70-130	20	05/31/2010 1730
Toluene	50	45		1	90	0.14	70-130	20	05/31/2010 1730
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	100	0.11	70-130	20	05/31/2010 1730
1,2,4-Trichlorobenzene	50	48		1	96	1.3	70-130	20	05/31/2010 1730
1,1,1-Trichloroethane	50	45		1	91	0.50	70-130	20	05/31/2010 1730
1,1,2-Trichloroethane	50	47		1	93	0.64	70-130	20	05/31/2010 1730
Trichloroethene	50	46		1	92	0.37	70-130	20	05/31/2010 1730

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ34838-003
Batch: 34838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichlorofluoromethane	50	53		1	106	2.2	60-140	20	05/31/2010 1730
Vinyl chloride	50	52		1	103	1.9	60-140	20	05/31/2010 1730
Xylenes (total)	100	93		1	93	1.9	70-130	20	05/31/2010 1730

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ34873-001
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	06/01/2010 0028
Benzene	ND		1	0.50	0.027	ug/L	06/01/2010 0028
Bromodichloromethane	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Bromoform	ND		1	0.50	0.010	ug/L	06/01/2010 0028
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	06/01/2010 0028
2-Butanone (MEK)	ND		1	10	2.0	ug/L	06/01/2010 0028
Carbon disulfide	ND		1	0.50	0.097	ug/L	06/01/2010 0028
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	06/01/2010 0028
Chlorobenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Chloroethane	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Chloroform	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Cyclohexane	ND		1	0.50	0.30	ug/L	06/01/2010 0028
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	06/01/2010 0028
Dibromochloromethane	ND		1	0.50	0.17	ug/L	06/01/2010 0028
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	06/01/2010 0028
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	06/01/2010 0028
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	06/01/2010 0028
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	06/01/2010 0028
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	06/01/2010 0028
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	06/01/2010 0028
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	06/01/2010 0028
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	06/01/2010 0028
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	06/01/2010 0028
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	06/01/2010 0028
Ethylbenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
2-Hexanone	ND		1	10	0.27	ug/L	06/01/2010 0028
Isopropylbenzene	ND		1	0.50	0.029	ug/L	06/01/2010 0028
Methyl acetate	ND		1	1.0	0.30	ug/L	06/01/2010 0028
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	06/01/2010 0028
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	06/01/2010 0028
Methylcyclohexane	ND		1	5.0	0.95	ug/L	06/01/2010 0028
Methylene chloride	ND		1	0.50	0.17	ug/L	06/01/2010 0028
Styrene	ND		1	0.50	0.015	ug/L	06/01/2010 0028
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	06/01/2010 0028
Tetrachloroethene	ND		1	0.50	0.014	ug/L	06/01/2010 0028
Toluene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	06/01/2010 0028
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	06/01/2010 0028
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	06/01/2010 0028
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	06/01/2010 0028

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ34873-001
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	06/01/2010 0028
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	06/01/2010 0028
Vinyl chloride	ND		1	0.50	0.065	ug/L	06/01/2010 0028
Xylenes (total)	ND		1	0.50	0.17	ug/L	06/01/2010 0028

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ34873-002
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	88		1	88	46-153	05/31/2010 2254
Benzene	50	45		1	89	70-130	05/31/2010 2254
Bromodichloromethane	50	42		1	85	70-130	05/31/2010 2254
Bromoform	50	43		1	85	70-130	05/31/2010 2254
Bromomethane (Methyl bromide)	50	46		1	92	60-140	05/31/2010 2254
2-Butanone (MEK)	100	89		1	89	60-140	05/31/2010 2254
Carbon disulfide	50	47		1	95	60-140	05/31/2010 2254
Carbon tetrachloride	50	43		1	86	70-130	05/31/2010 2254
Chlorobenzene	50	47		1	94	70-130	05/31/2010 2254
Chloroethane	50	47		1	94	42-163	05/31/2010 2254
Chloroform	50	44		1	87	70-130	05/31/2010 2254
Chloromethane (Methyl chloride)	50	49		1	98	20-158	05/31/2010 2254
Cyclohexane	50	57		1	115	70-130	05/31/2010 2254
1,2-Dibromo-3-chloropropane (DBCP)	50	44		1	88	70-130	05/31/2010 2254
Dibromochloromethane	50	44		1	88	70-130	05/31/2010 2254
1,2-Dibromoethane (EDB)	50	49		1	99	70-130	05/31/2010 2254
1,4-Dichlorobenzene	50	47		1	95	70-130	05/31/2010 2254
1,2-Dichlorobenzene	50	47		1	93	70-130	05/31/2010 2254
1,3-Dichlorobenzene	50	49		1	97	70-130	05/31/2010 2254
Dichlorodifluoromethane	50	55		1	111	60-140	05/31/2010 2254
1,2-Dichloroethane	50	42		1	83	70-130	05/31/2010 2254
1,1-Dichloroethane	50	43		1	87	70-130	05/31/2010 2254
cis-1,2-Dichloroethene	50	45		1	90	70-130	05/31/2010 2254
1,1-Dichloroethene	50	44		1	89	70-130	05/31/2010 2254
trans-1,2-Dichloroethene	50	44		1	87	70-130	05/31/2010 2254
1,2-Dichloropropane	50	46		1	92	70-130	05/31/2010 2254
cis-1,3-Dichloropropene	50	44		1	87	70-130	05/31/2010 2254
trans-1,3-Dichloropropene	50	47		1	95	70-130	05/31/2010 2254
Ethylbenzene	50	49		1	97	70-130	05/31/2010 2254
2-Hexanone	100	95		1	95	60-140	05/31/2010 2254
Isopropylbenzene	50	52		1	104	70-130	05/31/2010 2254
Methyl acetate	50	44		1	88	15-128	05/31/2010 2254
Methyl tertiary butyl ether (MTBE)	50	45		1	89	70-130	05/31/2010 2254
4-Methyl-2-pentanone	100	88		1	88	60-140	05/31/2010 2254
Methylcyclohexane	50	48		1	96	70-130	05/31/2010 2254
Methylene chloride	50	42		1	83	70-130	05/31/2010 2254
Styrene	50	44		1	88	70-130	05/31/2010 2254
1,1,2,2-Tetrachloroethane	50	51		1	102	70-130	05/31/2010 2254
Tetrachloroethene	50	44		1	88	70-130	05/31/2010 2254
Toluene	50	46		1	93	70-130	05/31/2010 2254
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	45		1	89	70-130	05/31/2010 2254
1,2,4-Trichlorobenzene	50	52		1	105	70-130	05/31/2010 2254
1,1,2-Trichloroethane	50	47		1	94	70-130	05/31/2010 2254
1,1,1-Trichloroethane	50	46		1	92	70-130	05/31/2010 2254

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ34873-002
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	44		1	89	70-130	05/31/2010 2254
Trichlorofluoromethane	50	48		1	97	60-140	05/31/2010 2254
Vinyl chloride	50	48		1	96	60-140	05/31/2010 2254
Xylenes (total)	100	94		1	94	70-130	05/31/2010 2254

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ34873-003
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	88		1	88	1.1	46-153	20	05/31/2010 2318
Benzene	50	44		1	87	2.0	70-130	20	05/31/2010 2318
Bromodichloromethane	50	42		1	84	0.33	70-130	20	05/31/2010 2318
Bromoform	50	43		1	86	0.84	70-130	20	05/31/2010 2318
Bromomethane (Methyl bromide)	50	46		1	93	1.2	60-140	20	05/31/2010 2318
2-Butanone (MEK)	100	91		1	91	2.7	60-140	20	05/31/2010 2318
Carbon disulfide	50	47		1	93	1.4	60-140	20	05/31/2010 2318
Carbon tetrachloride	50	43		1	86	0.76	70-130	20	05/31/2010 2318
Chlorobenzene	50	46		1	92	2.0	70-130	20	05/31/2010 2318
Chloroethane	50	46		1	93	1.8	42-163	20	05/31/2010 2318
Chloroform	50	44		1	87	0.35	70-130	20	05/31/2010 2318
Chloromethane (Methyl chloride)	50	47		1	94	3.5	20-158	20	05/31/2010 2318
Cyclohexane	50	58		1	116	1.3	70-130	20	05/31/2010 2318
1,2-Dibromo-3-chloropropane (DBCP)	50	44		1	89	1.5	70-130	20	05/31/2010 2318
Dibromochloromethane	50	44		1	87	0.63	70-130	20	05/31/2010 2318
1,2-Dibromoethane (EDB)	50	49		1	99	0.30	70-130	20	05/31/2010 2318
1,4-Dichlorobenzene	50	47		1	94	1.2	70-130	20	05/31/2010 2318
1,2-Dichlorobenzene	50	47		1	93	0.028	70-130	20	05/31/2010 2318
1,3-Dichlorobenzene	50	48		1	96	0.74	70-130	20	05/31/2010 2318
Dichlorodifluoromethane	50	54		1	108	2.5	60-140	20	05/31/2010 2318
1,2-Dichloroethane	50	42		1	84	1.2	70-130	20	05/31/2010 2318
1,1-Dichloroethane	50	44		1	87	0.46	70-130	20	05/31/2010 2318
cis-1,2-Dichloroethene	50	44		1	89	0.81	70-130	20	05/31/2010 2318
1,1-Dichloroethene	50	44		1	87	1.9	70-130	20	05/31/2010 2318
trans-1,2-Dichloroethene	50	43		1	86	1.7	70-130	20	05/31/2010 2318
1,2-Dichloropropane	50	46		1	91	0.96	70-130	20	05/31/2010 2318
cis-1,3-Dichloropropene	50	44		1	87	0.15	70-130	20	05/31/2010 2318
trans-1,3-Dichloropropene	50	47		1	95	0.41	70-130	20	05/31/2010 2318
Ethylbenzene	50	48		1	95	2.1	70-130	20	05/31/2010 2318
2-Hexanone	100	95		1	95	0.78	60-140	20	05/31/2010 2318
Isopropylbenzene	50	51		1	103	1.1	70-130	20	05/31/2010 2318
Methyl acetate	50	45		1	90	2.4	15-128	20	05/31/2010 2318
Methyl tertiary butyl ether (MTBE)	50	45		1	90	1.0	70-130	20	05/31/2010 2318
4-Methyl-2-pentanone	100	90		1	90	1.9	60-140	20	05/31/2010 2318
Methylcyclohexane	50	48		1	95	1.0	70-130	20	05/31/2010 2318
Methylene chloride	50	42		1	83	0.37	70-130	20	05/31/2010 2318
Styrene	50	43		1	87	1.2	70-130	20	05/31/2010 2318
1,1,2,2-Tetrachloroethane	50	52		1	103	1.1	70-130	20	05/31/2010 2318
Tetrachloroethene	50	44		1	88	0.38	70-130	20	05/31/2010 2318
Toluene	50	45		1	91	2.0	70-130	20	05/31/2010 2318
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	44		1	87	2.2	70-130	20	05/31/2010 2318
1,2,4-Trichlorobenzene	50	51		1	103	1.8	70-130	20	05/31/2010 2318
1,1,2-Trichloroethane	50	48		1	95	1.3	70-130	20	05/31/2010 2318
1,1,1-Trichloroethane	50	46		1	92	0.087	70-130	20	05/31/2010 2318

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ34873-003
Batch: 34873
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	44		1	88	0.88	70-130	20	05/31/2010 2318
Trichlorofluoromethane	50	48		1	95	1.9	60-140	20	05/31/2010 2318
Vinyl chloride	50	46		1	92	4.3	60-140	20	05/31/2010 2318
Xylenes (total)	100	93		1	93	1.1	70-130	20	05/31/2010 2318

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ34942-001
Batch: 34942
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	06/01/2010 2235

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ34942-002
Batch: 34942
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Dichlorodifluoromethane	50	82	N	1	164	60-140	06/01/2010 2110

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ34942-003
Batch: 34942
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Dichlorodifluoromethane	50	76	N	1	152	8.0	60-140	20	06/01/2010 2131

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY *Chain of Custody Record*

Number 108513

Client: ARCADIS	Report to Contact: Chase Forman	Telephone No. / Fax No. / E-mail: 919-854-1282	Quote No.
Address: 2849 Paces Ferry Rd	Sampler's Signature: x Erica Maddox	Waybill No.	Page 1 of
City: Atlanta / State: GA / Zip Code: 30339	Printed Name: Erica Maddox	Analysis (Attach list if more space is needed.)	
Project Name: Hunter Stewart - HAA-17 Report			
Project No.: GP08HAFS. H17B, DGUF1	P.O. No.		Lot No.: LE28018

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	Na2S2O3	VOCs (8260)	Remarks / Cooler I.D.
H17-MW-17S (052510)	5/25/10	0912	G	X						3			✓	
H17-MW-17D (052510)		1135	G	X						3			✓	
H17-MW-21D (052510)		1233	G	X						3			✓	
H17-MW-21S (052510)		1325	G	X						3			✓	
H17-MW-22S (052510)		1542	G	X						3			✓	
H17-MW-22D (052510)		1642	G	X						3			✓	
H17-MW-20D (052510)		1735	G	X						3			✓	
H17-MW-19S (052510)		1827	G	X						3			✓	
H17-MW-18D (052510)		1947	G	X						3			✓	
H17-DUP-1 (052510)		1200	G	X						3			✓	
TB-01 (052510)	↓	0000	G	X						2			✓	

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☐ Standard ☒ Rush (Specify) 1 week

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Erica Maddox	5/27/10	1100	1. Received by: FedEx		
2. Relinquished by:			2. Received by:		
3. Relinquished by: FedEx	5/28/10	0840	3. Laboratory received by:	5/28/10	0840

Comments:

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack — Receipt Temp. 1.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: ETC 5/28/10 Lot #: LE-28018

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1 / 0 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Chase Forman

Project Name: HAA-17

Project Number: GP08HAFS.H17B.DGOFI

Lot Number: LF12005

Date Completed: 06/18/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

* L F 1 2 0 0 5 *

Case Narrative
ARCADIS U.S., Inc.
Lot Number: LF12005

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The LCS recovery for Carbon disulfide, Chloromethane (Methyl chloride) and 1,1,2-Trichloro-1,2,2-Trifluoroethane were outside method control limits in batch 32956. The LCSD results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The LCS recovery for Carbon disulfide and 1,1,2-Trichloro-1,2,2-Trifluoroethane were outside method control limits in batches 35766 and 35990. The LCSD results were within limits. Therefore the associated sample results were reported and no corrective action was required.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: LF12005

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-SED-01 (061110)	Solid	06/11/2010 1015	06/12/2010
002	H17-SW-01 (061110)	Aqueous	06/11/2010 1015	06/12/2010
003	H17-SED-02 (061110)	Solid	06/11/2010 0950	06/12/2010
004	H17-SW-02 (061110)	Aqueous	06/11/2010 0950	06/12/2010
005	H17-SED-03 (061110)	Solid	06/11/2010 0920	06/12/2010
006	H17-SW-03 (061110)	Aqueous	06/11/2010 0920	06/12/2010
007	TRIP BLANK	Aqueous	06/11/2010	06/12/2010

(7 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: LF12005

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-SED-01 (061110)	Solid	Tetrachloroethene	8260B	17		ug/kg	5
002	H17-SW-01 (061110)	Aqueous	Acetone	8260B	4.0	J	ug/L	7
003	H17-SED-02 (061110)	Solid	Acetone	8260B	20		ug/kg	9
003	H17-SED-02 (061110)	Solid	Benzene	8260B	18		ug/kg	9
003	H17-SED-02 (061110)	Solid	2-Butanone (MEK)	8260B	1.2	J	ug/kg	9
003	H17-SED-02 (061110)	Solid	Cyclohexane	8260B	1.8	BJ	ug/kg	9
003	H17-SED-02 (061110)	Solid	Ethylbenzene	8260B	3.6		ug/kg	9
003	H17-SED-02 (061110)	Solid	Isopropylbenzene	8260B	0.57	J	ug/kg	9
003	H17-SED-02 (061110)	Solid	Methyl acetate	8260B	0.42	BJ	ug/kg	9
003	H17-SED-02 (061110)	Solid	Methyl tertiary butyl ether (MTBE)	8260B	0.58	J	ug/kg	9
003	H17-SED-02 (061110)	Solid	Tetrachloroethene	8260B	8.3		ug/kg	9
003	H17-SED-02 (061110)	Solid	Toluene	8260B	0.84	J	ug/kg	9
003	H17-SED-02 (061110)	Solid	Xylenes (total)	8260B	10		ug/kg	10
004	H17-SW-02 (061110)	Aqueous	Acetone	8260B	2.4	J	ug/L	11
004	H17-SW-02 (061110)	Aqueous	Benzene	8260B	0.22	J	ug/L	11
005	H17-SED-03 (061110)	Solid	Acetone	8260B	120		ug/kg	13
005	H17-SED-03 (061110)	Solid	2-Butanone (MEK)	8260B	37		ug/kg	13
005	H17-SED-03 (061110)	Solid	Tetrachloroethene	8260B	52		ug/kg	13
006	H17-SW-03 (061110)	Aqueous	Acetone	8260B	7.8	J	ug/L	15
007	TRIP BLANK	Aqueous	Acetone	8260B	4.6	J	ug/L	17

(20 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: H17-SED-01 (061110)
Date Sampled: 06/11/2010 1015
Date Received: 06/12/2010

Laboratory ID: LF12005-001
Matrix: Solid
% Solids: 74.9 06/12/2010 1721

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	06/15/2010 0403	DLB		35766	9.56

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		14	4.7	ug/kg	1
Benzene	71-43-2	8260B	ND		3.5	0.77	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.5	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.5	0.49	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.5	1.3	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.0	1.7	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		3.5	0.91	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.5	1.3	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.5	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.5	0.91	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.5	0.58	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.5	0.70	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.5	0.47	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.5	1.0	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.5	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.5	0.59	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.5	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.5	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.5	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.5	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.5	0.51	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.5	0.70	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.5	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.5	0.53	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.5	1.0	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.5	0.64	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.5	0.48	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.5	0.57	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.5	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.0	0.91	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.5	0.56	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.5	0.47	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.5	0.28	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.0	1.0	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.5	0.43	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.5	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.5	0.77	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.5	0.33	ug/kg	1
Tetrachloroethene	127-18-4	8260B	17		3.5	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.5	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.5	1.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.5	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.5	0.59	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.5	0.55	ug/kg	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-001
Description: H17-SED-01 (061110)
Matrix: Solid
Date Sampled: 06/11/2010 1015
% Solids: 74.9 06/12/2010 1721
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	06/15/2010 0403	DLB		35766	9.56

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.5	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.5	1.0	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.5	0.60	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.5	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	53-142
Bromofluorobenzene		107	47-138
Toluene-d8		109	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-002
Description: H17-SW-01 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 1015
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0417	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	4.0	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-002
Description: H17-SW-01 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 1015
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0417	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-003
Description: H17-SED-02 (061110)
Matrix: Solid
Date Sampled: 06/11/2010 0950
% Solids: 71.6 06/12/2010 1721
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	06/17/2010 0115	LBS		32956	14.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	20		9.9	3.3	ug/kg	1
Benzene	71-43-2	8260B	18		2.5	0.54	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.5	0.84	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.5	0.35	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.5	0.89	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	1.2	J	4.9	1.2	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		2.5	0.64	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.5	0.89	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.5	0.84	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.5	0.64	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.5	0.41	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.5	0.49	ug/kg	1
Cyclohexane	110-82-7	8260B	1.8	BJ	2.5	0.33	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.5	0.74	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.5	0.84	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.5	0.42	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.5	0.84	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.5	0.84	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.5	0.84	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.5	0.79	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.5	0.36	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.5	0.49	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.5	0.84	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.5	0.37	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.5	0.74	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.5	0.45	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.5	0.34	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.5	0.40	ug/kg	1
Ethylbenzene	100-41-4	8260B	3.6		2.5	0.84	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.9	0.64	ug/kg	1
Isopropylbenzene	98-82-8	8260B	0.57	J	2.5	0.39	ug/kg	1
Methyl acetate	79-20-9	8260B	0.42	BJ	2.5	0.33	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	0.58	J	2.5	0.20	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.9	0.74	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.5	0.30	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.5	1.3	ug/kg	1
Styrene	100-42-5	8260B	ND		2.5	0.54	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.5	0.23	ug/kg	1
Tetrachloroethene	127-18-4	8260B	8.3		2.5	1.1	ug/kg	1
Toluene	108-88-3	8260B	0.84	J	2.5	0.84	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.5	1.0	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.5	0.84	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.5	0.42	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.5	0.39	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-003
Description: H17-SED-02 (061110)
Matrix: Solid
Date Sampled: 06/11/2010 0950
% Solids: 71.6 06/12/2010 1721
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	06/17/2010 0115	LBS		32956	14.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.5	0.94	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.5	0.74	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.5	0.42	ug/kg	1
Xylenes (total)	1330-20-7	8260B	10		2.5	1.4	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	53-142
Bromofluorobenzene		106	47-138
Toluene-d8		106	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-004
Description: H17-SW-02 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 0950
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0439	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.4	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.22	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-004
Description: H17-SW-02 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 0950
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0439	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: H17-SED-03 (061110)
Date Sampled: 06/11/2010 0920
Date Received: 06/12/2010

Laboratory ID: LF12005-005
Matrix: Solid
% Solids: 28.9 06/12/2010 1721

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	06/15/2010 0449	LBS		35990	5.00

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	120		69	23	ug/kg	2
Benzene	71-43-2	8260B	ND		17	3.8	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		17	5.9	ug/kg	2
Bromoform	75-25-2	8260B	ND		17	2.4	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		17	6.2	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	37		35	8.3	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		17	4.5	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		17	6.2	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		17	5.9	ug/kg	2
Chloroethane	75-00-3	8260B	ND		17	4.5	ug/kg	2
Chloroform	67-66-3	8260B	ND		17	2.9	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		17	3.5	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		17	2.3	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		17	5.2	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		17	5.9	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		17	2.9	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		17	5.9	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		17	5.9	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		17	5.9	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		17	5.5	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		17	2.5	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		17	3.5	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		17	5.9	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND		17	2.6	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		17	5.2	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		17	3.1	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		17	2.4	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		17	2.8	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		17	5.9	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		35	4.5	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		17	2.8	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		17	2.3	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		17	1.4	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		35	5.2	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		17	2.1	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		17	9.0	ug/kg	2
Styrene	100-42-5	8260B	ND		17	3.8	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		17	1.6	ug/kg	2
Tetrachloroethene	127-18-4	8260B	52		17	8.0	ug/kg	2
Toluene	108-88-3	8260B	ND		17	5.9	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		17	7.3	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		17	5.9	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		17	2.9	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		17	2.7	ug/kg	2

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-005
Description: H17-SED-03 (061110)
Matrix: Solid
Date Sampled: 06/11/2010 0920
% Solids: 28.9 06/12/2010 1721
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	06/15/2010 0449	LBS		35990	5.00

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		17	6.6	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		17	5.2	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		17	3.0	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		17	10	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	53-142
Bromofluorobenzene		85	47-138
Toluene-d8		105	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-006
Description: H17-SW-03 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 0920
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0501	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	7.8	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-006
Description: H17-SW-03 (061110)
Matrix: Aqueous
Date Sampled: 06/11/2010 0920
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0501	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-007
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 06/11/2010
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0523	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	4.6	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: LF12005-007
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 06/11/2010
Date Received: 06/12/2010

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/16/2010 0523	DLB		35838

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ32956-001
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	06/16/2010 2135
Benzene	ND		1	5.0	1.1	ug/kg	06/16/2010 2135
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
Bromoform	ND		1	5.0	0.70	ug/kg	06/16/2010 2135
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	06/16/2010 2135
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	06/16/2010 2135
Carbon disulfide	ND		1	5.0	1.3	ug/kg	06/16/2010 2135
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	06/16/2010 2135
Chlorobenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
Chloroethane	ND		1	5.0	1.3	ug/kg	06/16/2010 2135
Chloroform	ND		1	5.0	0.83	ug/kg	06/16/2010 2135
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	06/16/2010 2135
Cyclohexane	1.2	J	1	5.0	0.67	ug/kg	06/16/2010 2135
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	06/16/2010 2135
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	06/16/2010 2135
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	06/16/2010 2135
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	06/16/2010 2135
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	06/16/2010 2135
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	06/16/2010 2135
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	06/16/2010 2135
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	06/16/2010 2135
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	06/16/2010 2135
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	06/16/2010 2135
Ethylbenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
2-Hexanone	3.8	J	1	10	1.3	ug/kg	06/16/2010 2135
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	06/16/2010 2135
Methyl acetate	1.0	J	1	5.0	0.67	ug/kg	06/16/2010 2135
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	06/16/2010 2135
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	06/16/2010 2135
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	06/16/2010 2135
Methylene chloride	ND		1	5.0	2.6	ug/kg	06/16/2010 2135
Styrene	ND		1	5.0	1.1	ug/kg	06/16/2010 2135
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	06/16/2010 2135
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	06/16/2010 2135
Toluene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	06/16/2010 2135
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	06/16/2010 2135
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	06/16/2010 2135
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	06/16/2010 2135

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ32956-001
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	06/16/2010 2135
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	06/16/2010 2135
Vinyl chloride	ND		1	5.0	0.86	ug/kg	06/16/2010 2135
Xylenes (total)	ND		1	5.0	2.9	ug/kg	06/16/2010 2135

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	47-138
1,2-Dichloroethane-d4		96	53-142
Toluene-d8		109	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ32956-002
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	124	42-149	06/16/2010 2025
Benzene	50	60		1	121	69-123	06/16/2010 2025
Bromodichloromethane	50	59		1	118	69-121	06/16/2010 2025
Bromoform	50	58		1	116	61-119	06/16/2010 2025
Bromomethane (Methyl bromide)	50	54		1	108	35-144	06/16/2010 2025
2-Butanone (MEK)	100	120		1	124	57-148	06/16/2010 2025
Carbon disulfide	50	62	N	1	123	58-122	06/16/2010 2025
Carbon tetrachloride	50	60		1	120	58-136	06/16/2010 2025
Chlorobenzene	50	62		1	125	59-129	06/16/2010 2025
Chloroethane	50	63		1	126	50-132	06/16/2010 2025
Chloroform	50	60		1	120	71-125	06/16/2010 2025
Chloromethane (Methyl chloride)	50	68	N	1	137	34-134	06/16/2010 2025
Cyclohexane	50	61		1	123	53-139	06/16/2010 2025
1,2-Dibromo-3-chloropropane (DBCP)	50	54		1	108	55-125	06/16/2010 2025
Dibromochloromethane	50	59		1	119	66-119	06/16/2010 2025
1,2-Dibromoethane (EDB)	50	58		1	115	74-124	06/16/2010 2025
1,2-Dichlorobenzene	50	62		1	124	57-131	06/16/2010 2025
1,4-Dichlorobenzene	50	65		1	130	52-133	06/16/2010 2025
1,3-Dichlorobenzene	50	65		1	130	51-134	06/16/2010 2025
Dichlorodifluoromethane	50	74		1	148	10-157	06/16/2010 2025
1,1-Dichloroethane	50	59		1	119	71-127	06/16/2010 2025
1,2-Dichloroethane	50	60		1	120	67-129	06/16/2010 2025
1,1-Dichloroethene	50	58		1	117	69-138	06/16/2010 2025
cis-1,2-Dichloroethene	50	60		1	121	70-122	06/16/2010 2025
trans-1,2-Dichloroethene	50	59		1	118	68-131	06/16/2010 2025
1,2-Dichloropropane	50	59		1	119	72-124	06/16/2010 2025
cis-1,3-Dichloropropene	50	61		1	121	70-126	06/16/2010 2025
trans-1,3-Dichloropropene	50	59		1	119	70-124	06/16/2010 2025
Ethylbenzene	50	64		1	127	59-128	06/16/2010 2025
2-Hexanone	100	120		1	117	54-137	06/16/2010 2025
Isopropylbenzene	50	62		1	123	50-136	06/16/2010 2025
Methyl acetate	50	60		1	120	59-137	06/16/2010 2025
Methyl tertiary butyl ether (MTBE)	50	59		1	117	72-122	06/16/2010 2025
4-Methyl-2-pentanone	100	110		1	114	60-134	06/16/2010 2025
Methylcyclohexane	50	64		1	127	41-144	06/16/2010 2025
Methylene chloride	50	57		1	114	77-129	06/16/2010 2025
Styrene	50	64		1	128	54-136	06/16/2010 2025
1,1,2,2-Tetrachloroethane	50	58		1	116	69-132	06/16/2010 2025
Tetrachloroethene	50	63		1	127	70-130	06/16/2010 2025
Toluene	50	60		1	119	61-129	06/16/2010 2025
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	72	N	1	144	49-136	06/16/2010 2025
1,2,4-Trichlorobenzene	50	70		1	139	34-145	06/16/2010 2025
1,1,2-Trichloroethane	50	53		1	106	55-128	06/16/2010 2025
1,1,1-Trichloroethane	50	60		1	120	63-128	06/16/2010 2025

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ32956-002
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	60		1	119	62-126	06/16/2010 2025
Trichlorofluoromethane	50	60		1	119	45-138	06/16/2010 2025
Vinyl chloride	50	58		1	116	42-132	06/16/2010 2025
Xylenes (total)	100	130		1	127	58-128	06/16/2010 2025

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	47-138
1,2-Dichloroethane-d4		95	53-142
Toluene-d8		107	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ32956-003
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	96	+	1	96	26	42-149	20	06/16/2010 2158
Benzene	50	51		1	102	17	69-123	20	06/16/2010 2158
Bromodichloromethane	50	48		1	96	20	69-121	20	06/16/2010 2158
Bromoform	50	44	+	1	89	26	61-119	20	06/16/2010 2158
Bromomethane (Methyl bromide)	50	47		1	93	14	35-144	20	06/16/2010 2158
2-Butanone (MEK)	100	97	+	1	97	25	57-148	20	06/16/2010 2158
Carbon disulfide	50	52		1	105	16	58-122	20	06/16/2010 2158
Carbon tetrachloride	50	50		1	99	19	58-136	20	06/16/2010 2158
Chlorobenzene	50	51		1	103	19	59-129	20	06/16/2010 2158
Chloroethane	50	51	+	1	101	21	50-132	20	06/16/2010 2158
Chloroform	50	50		1	101	18	71-125	20	06/16/2010 2158
Chloromethane (Methyl chloride)	50	58		1	116	17	34-134	20	06/16/2010 2158
Cyclohexane	50	52		1	105	16	53-139	20	06/16/2010 2158
1,2-Dibromo-3-chloropropane (DBCP)	50	42	+	1	84	25	55-125	20	06/16/2010 2158
Dibromochloromethane	50	47	+	1	93	24	66-119	20	06/16/2010 2158
1,2-Dibromoethane (EDB)	50	46	+	1	92	22	74-124	20	06/16/2010 2158
1,2-Dichlorobenzene	50	50	+	1	100	22	57-131	20	06/16/2010 2158
1,4-Dichlorobenzene	50	53		1	107	20	52-133	20	06/16/2010 2158
1,3-Dichlorobenzene	50	53		1	106	20	51-134	20	06/16/2010 2158
Dichlorodifluoromethane	50	61		1	123	18	10-157	20	06/16/2010 2158
1,1-Dichloroethane	50	50		1	101	17	71-127	20	06/16/2010 2158
1,2-Dichloroethane	50	50		1	99	19	67-129	20	06/16/2010 2158
1,1-Dichloroethene	50	49		1	98	17	69-138	20	06/16/2010 2158
cis-1,2-Dichloroethene	50	50		1	100	19	70-122	20	06/16/2010 2158
trans-1,2-Dichloroethene	50	50		1	99	17	68-131	20	06/16/2010 2158
1,2-Dichloropropane	50	49		1	99	18	72-124	20	06/16/2010 2158
cis-1,3-Dichloropropene	50	49	+	1	98	22	70-126	20	06/16/2010 2158
trans-1,3-Dichloropropene	50	47	+	1	93	24	70-124	20	06/16/2010 2158
Ethylbenzene	50	52	+	1	104	21	59-128	20	06/16/2010 2158
2-Hexanone	100	84	+	1	84	33	54-137	20	06/16/2010 2158
Isopropylbenzene	50	51		1	101	20	50-136	20	06/16/2010 2158
Methyl acetate	50	50		1	100	18	59-137	20	06/16/2010 2158
Methyl tertiary butyl ether (MTBE)	50	49		1	98	18	72-122	20	06/16/2010 2158
4-Methyl-2-pentanone	100	88	+	1	88	25	60-134	20	06/16/2010 2158
Methylcyclohexane	50	53		1	106	18	41-144	20	06/16/2010 2158
Methylene chloride	50	48		1	96	17	77-129	20	06/16/2010 2158
Styrene	50	52		1	105	20	54-136	20	06/16/2010 2158
1,1,2,2-Tetrachloroethane	50	46	+	1	92	23	69-132	20	06/16/2010 2158
Tetrachloroethene	50	51	+	1	101	22	70-130	20	06/16/2010 2158
Toluene	50	49		1	99	19	61-129	20	06/16/2010 2158
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	60		1	120	18	49-136	20	06/16/2010 2158
1,2,4-Trichlorobenzene	50	56	+	1	112	22	34-145	20	06/16/2010 2158
1,1,2-Trichloroethane	50	43	+	1	86	22	55-128	20	06/16/2010 2158
1,1,1-Trichloroethane	50	51		1	102	16	63-128	20	06/16/2010 2158

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ32956-003
Batch: 32956
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	49		1	99	19	62-126	20	06/16/2010 2158
Trichlorofluoromethane	50	51		1	101	17	45-138	20	06/16/2010 2158
Vinyl chloride	50	51		1	101	13	42-132	20	06/16/2010 2158
Xylenes (total)	100	100		1	105	19	58-128	20	06/16/2010 2158

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	47-138
1,2-Dichloroethane-d4		97	53-142
Toluene-d8		109	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35766-001
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	06/15/2010 0219
Benzene	ND		1	5.0	1.1	ug/kg	06/15/2010 0219
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Bromoform	ND		1	5.0	0.70	ug/kg	06/15/2010 0219
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	06/15/2010 0219
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	06/15/2010 0219
Carbon disulfide	ND		1	5.0	1.3	ug/kg	06/15/2010 0219
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	06/15/2010 0219
Chlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Chloroethane	ND		1	5.0	1.3	ug/kg	06/15/2010 0219
Chloroform	ND		1	5.0	0.83	ug/kg	06/15/2010 0219
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	06/15/2010 0219
Cyclohexane	ND		1	5.0	0.67	ug/kg	06/15/2010 0219
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	06/15/2010 0219
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	06/15/2010 0219
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	06/15/2010 0219
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	06/15/2010 0219
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	06/15/2010 0219
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	06/15/2010 0219
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	06/15/2010 0219
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	06/15/2010 0219
Ethylbenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
2-Hexanone	ND		1	10	1.3	ug/kg	06/15/2010 0219
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	06/15/2010 0219
Methyl acetate	ND		1	5.0	0.67	ug/kg	06/15/2010 0219
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	06/15/2010 0219
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	06/15/2010 0219
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	06/15/2010 0219
Methylene chloride	ND		1	5.0	2.6	ug/kg	06/15/2010 0219
Styrene	ND		1	5.0	1.1	ug/kg	06/15/2010 0219
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	06/15/2010 0219
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	06/15/2010 0219
Toluene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	06/15/2010 0219
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	06/15/2010 0219
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	06/15/2010 0219

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35766-001
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	06/15/2010 0219
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
Vinyl chloride	ND		1	5.0	0.86	ug/kg	06/15/2010 0219
Xylenes (total)	ND		1	5.0	2.9	ug/kg	06/15/2010 0219

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	47-138
1,2-Dichloroethane-d4		100	53-142
Toluene-d8		111	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35766-002
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	100		1	100	42-149	06/15/2010 0046
Benzene	50	47		1	94	69-123	06/15/2010 0046
Bromodichloromethane	50	47		1	95	69-121	06/15/2010 0046
Bromoform	50	48		1	95	61-119	06/15/2010 0046
Bromomethane (Methyl bromide)	50	41		1	82	35-144	06/15/2010 0046
2-Butanone (MEK)	100	99		1	99	57-148	06/15/2010 0046
Carbon disulfide	50	53		1	106	58-122	06/15/2010 0046
Carbon tetrachloride	50	49		1	99	58-136	06/15/2010 0046
Chlorobenzene	50	48		1	96	59-129	06/15/2010 0046
Chloroethane	50	50		1	100	50-132	06/15/2010 0046
Chloroform	50	46		1	93	71-125	06/15/2010 0046
Chloromethane (Methyl chloride)	50	37		1	75	34-134	06/15/2010 0046
Cyclohexane	50	51		1	103	53-139	06/15/2010 0046
1,2-Dibromo-3-chloropropane (DBCP)	50	49		1	98	55-125	06/15/2010 0046
Dibromochloromethane	50	48		1	96	66-119	06/15/2010 0046
1,2-Dibromoethane (EDB)	50	51		1	102	74-124	06/15/2010 0046
1,4-Dichlorobenzene	50	50		1	100	52-133	06/15/2010 0046
1,3-Dichlorobenzene	50	50		1	100	51-134	06/15/2010 0046
1,2-Dichlorobenzene	50	49		1	98	57-131	06/15/2010 0046
Dichlorodifluoromethane	50	53		1	106	10-157	06/15/2010 0046
1,2-Dichloroethane	50	46		1	92	67-129	06/15/2010 0046
1,1-Dichloroethane	50	47		1	94	71-127	06/15/2010 0046
trans-1,2-Dichloroethene	50	48		1	96	68-131	06/15/2010 0046
cis-1,2-Dichloroethene	50	48		1	96	70-122	06/15/2010 0046
1,1-Dichloroethene	50	48		1	96	69-138	06/15/2010 0046
1,2-Dichloropropane	50	46		1	92	72-124	06/15/2010 0046
trans-1,3-Dichloropropene	50	51		1	102	70-124	06/15/2010 0046
cis-1,3-Dichloropropene	50	51		1	103	70-126	06/15/2010 0046
Ethylbenzene	50	50		1	100	59-128	06/15/2010 0046
2-Hexanone	100	110		1	106	54-137	06/15/2010 0046
Isopropylbenzene	50	52		1	104	50-136	06/15/2010 0046
Methyl acetate	50	49		1	97	59-137	06/15/2010 0046
Methyl tertiary butyl ether (MTBE)	50	50		1	100	72-122	06/15/2010 0046
4-Methyl-2-pentanone	100	100		1	105	60-134	06/15/2010 0046
Methylcyclohexane	50	55		1	111	41-144	06/15/2010 0046
Methylene chloride	50	47		1	94	77-129	06/15/2010 0046
Styrene	50	50		1	100	54-136	06/15/2010 0046
1,1,2,2-Tetrachloroethane	50	50		1	100	69-132	06/15/2010 0046
Tetrachloroethene	50	50		1	99	70-130	06/15/2010 0046
Toluene	50	48		1	96	61-129	06/15/2010 0046
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	57		1	113	49-136	06/15/2010 0046
1,2,4-Trichlorobenzene	50	56		1	112	34-145	06/15/2010 0046
1,1,2-Trichloroethane	50	47		1	94	55-128	06/15/2010 0046
1,1,1-Trichloroethane	50	48		1	97	63-128	06/15/2010 0046

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35766-002
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	50		1	99	62-126	06/15/2010 0046
Trichlorofluoromethane	50	51		1	101	45-138	06/15/2010 0046
Vinyl chloride	50	38		1	77	42-132	06/15/2010 0046
Xylenes (total)	100	100		1	101	58-128	06/15/2010 0046

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		117	47-138
1,2-Dichloroethane-d4		98	53-142
Toluene-d8		111	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35766-003
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	120	18	42-149	20	06/15/2010 0109
Benzene	50	57		1	114	19	69-123	20	06/15/2010 0109
Bromodichloromethane	50	57		1	115	19	69-121	20	06/15/2010 0109
Bromoform	50	55		1	109	14	61-119	20	06/15/2010 0109
Bromomethane (Methyl bromide)	50	43		1	86	4.3	35-144	20	06/15/2010 0109
2-Butanone (MEK)	100	120		1	120	20	57-148	20	06/15/2010 0109
Carbon disulfide	50	64	N	1	129	19	58-122	20	06/15/2010 0109
Carbon tetrachloride	50	61	+	1	121	21	58-136	20	06/15/2010 0109
Chlorobenzene	50	57		1	114	17	59-129	20	06/15/2010 0109
Chloroethane	50	59		1	117	16	50-132	20	06/15/2010 0109
Chloroform	50	55		1	110	17	71-125	20	06/15/2010 0109
Chloromethane (Methyl chloride)	50	43		1	87	15	34-134	20	06/15/2010 0109
Cyclohexane	50	63	+	1	126	21	53-139	20	06/15/2010 0109
1,2-Dibromo-3-chloropropane (DBCP)	50	62	+	1	124	24	55-125	20	06/15/2010 0109
Dibromochloromethane	50	57		1	114	17	66-119	20	06/15/2010 0109
1,2-Dibromoethane (EDB)	50	58		1	116	14	74-124	20	06/15/2010 0109
1,4-Dichlorobenzene	50	60		1	119	17	52-133	20	06/15/2010 0109
1,3-Dichlorobenzene	50	60		1	119	18	51-134	20	06/15/2010 0109
1,2-Dichlorobenzene	50	59		1	117	18	57-131	20	06/15/2010 0109
Dichlorodifluoromethane	50	60		1	121	13	10-157	20	06/15/2010 0109
1,2-Dichloroethane	50	53		1	105	14	67-129	20	06/15/2010 0109
1,1-Dichloroethane	50	57		1	114	20	71-127	20	06/15/2010 0109
trans-1,2-Dichloroethene	50	59		1	117	19	68-131	20	06/15/2010 0109
cis-1,2-Dichloroethene	50	56		1	113	16	70-122	20	06/15/2010 0109
1,1-Dichloroethene	50	58		1	117	19	69-138	20	06/15/2010 0109
1,2-Dichloropropane	50	55		1	111	18	72-124	20	06/15/2010 0109
trans-1,3-Dichloropropene	50	60		1	119	15	70-124	20	06/15/2010 0109
cis-1,3-Dichloropropene	50	61		1	122	17	70-126	20	06/15/2010 0109
Ethylbenzene	50	61		1	121	19	59-128	20	06/15/2010 0109
2-Hexanone	100	130		1	129	19	54-137	20	06/15/2010 0109
Isopropylbenzene	50	64	+	1	128	21	50-136	20	06/15/2010 0109
Methyl acetate	50	59		1	118	19	59-137	20	06/15/2010 0109
Methyl tertiary butyl ether (MTBE)	50	58		1	115	15	72-122	20	06/15/2010 0109
4-Methyl-2-pentanone	100	130	+	1	129	21	60-134	20	06/15/2010 0109
Methylcyclohexane	50	69	+	1	138	22	41-144	20	06/15/2010 0109
Methylene chloride	50	55		1	110	15	77-129	20	06/15/2010 0109
Styrene	50	58		1	117	16	54-136	20	06/15/2010 0109
1,1,2,2-Tetrachloroethane	50	60		1	119	18	69-132	20	06/15/2010 0109
Tetrachloroethene	50	61		1	121	20	70-130	20	06/15/2010 0109
Toluene	50	59		1	117	19	61-129	20	06/15/2010 0109
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	69	N	1	137	19	49-136	20	06/15/2010 0109
1,2,4-Trichlorobenzene	50	65		1	131	16	34-145	20	06/15/2010 0109
1,1,2-Trichloroethane	50	55		1	110	16	55-128	20	06/15/2010 0109
1,1,1-Trichloroethane	50	59		1	118	20	63-128	20	06/15/2010 0109

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35766-003
Batch: 35766
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	61	+	1	123	21	62-126	20	06/15/2010 0109
Trichlorofluoromethane	50	61		1	122	19	45-138	20	06/15/2010 0109
Vinyl chloride	50	46		1	91	17	42-132	20	06/15/2010 0109
Xylenes (total)	100	120		1	121	18	58-128	20	06/15/2010 0109

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		116	47-138
1,2-Dichloroethane-d4		98	53-142
Toluene-d8		112	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35838-001
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	06/16/2010 0016
Benzene	ND		1	0.50	0.027	ug/L	06/16/2010 0016
Bromodichloromethane	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Bromoform	ND		1	0.50	0.010	ug/L	06/16/2010 0016
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	06/16/2010 0016
2-Butanone (MEK)	ND		1	10	2.0	ug/L	06/16/2010 0016
Carbon disulfide	ND		1	0.50	0.097	ug/L	06/16/2010 0016
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	06/16/2010 0016
Chlorobenzene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Chloroethane	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Chloroform	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Cyclohexane	ND		1	0.50	0.30	ug/L	06/16/2010 0016
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	06/16/2010 0016
Dibromochloromethane	ND		1	0.50	0.17	ug/L	06/16/2010 0016
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	06/16/2010 0016
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	06/16/2010 0016
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	06/16/2010 0016
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	06/16/2010 0016
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	06/16/2010 0016
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	06/16/2010 0016
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	06/16/2010 0016
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	06/16/2010 0016
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	06/16/2010 0016
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	06/16/2010 0016
Ethylbenzene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
2-Hexanone	ND		1	10	0.27	ug/L	06/16/2010 0016
Isopropylbenzene	ND		1	0.50	0.029	ug/L	06/16/2010 0016
Methyl acetate	ND		1	1.0	0.30	ug/L	06/16/2010 0016
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	06/16/2010 0016
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	06/16/2010 0016
Methylcyclohexane	ND		1	5.0	0.95	ug/L	06/16/2010 0016
Methylene chloride	ND		1	0.50	0.17	ug/L	06/16/2010 0016
Styrene	ND		1	0.50	0.015	ug/L	06/16/2010 0016
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	06/16/2010 0016
Tetrachloroethene	ND		1	0.50	0.014	ug/L	06/16/2010 0016
Toluene	ND		1	0.50	0.17	ug/L	06/16/2010 0016
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	06/16/2010 0016
1,2,4-Trichlorobenzene	0.17	J	1	0.50	0.17	ug/L	06/16/2010 0016
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	06/16/2010 0016
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	06/16/2010 0016

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35838-001
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	06/16/2010 0016
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	06/16/2010 0016
Vinyl chloride	ND		1	0.50	0.065	ug/L	06/16/2010 0016
Xylenes (total)	ND		1	0.50	0.17	ug/L	06/16/2010 0016

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35838-002
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	40	57		1	142	46-153	06/15/2010 2247
Benzene	20	20		1	99	70-130	06/15/2010 2247
Bromodichloromethane	20	19		1	97	70-130	06/15/2010 2247
Bromoform	20	19		1	97	70-130	06/15/2010 2247
Bromomethane (Methyl bromide)	20	21		1	104	60-140	06/15/2010 2247
2-Butanone (MEK)	40	44		1	110	60-140	06/15/2010 2247
Carbon disulfide	20	20		1	102	60-140	06/15/2010 2247
Carbon tetrachloride	20	20		1	100	70-130	06/15/2010 2247
Chlorobenzene	20	20		1	100	70-130	06/15/2010 2247
Chloroethane	20	21		1	103	42-163	06/15/2010 2247
Chloroform	20	19		1	96	70-130	06/15/2010 2247
Chloromethane (Methyl chloride)	20	22		1	112	20-158	06/15/2010 2247
Cyclohexane	20	24		1	118	70-130	06/15/2010 2247
1,2-Dibromo-3-chloropropane (DBCP)	20	21		1	106	70-130	06/15/2010 2247
Dibromochloromethane	20	20		1	99	70-130	06/15/2010 2247
1,2-Dibromoethane (EDB)	20	20		1	100	70-130	06/15/2010 2247
1,4-Dichlorobenzene	20	21		1	103	70-130	06/15/2010 2247
1,2-Dichlorobenzene	20	21		1	103	70-130	06/15/2010 2247
1,3-Dichlorobenzene	20	21		1	103	70-130	06/15/2010 2247
Dichlorodifluoromethane	20	21		1	107	60-140	06/15/2010 2247
1,2-Dichloroethane	20	20		1	98	70-130	06/15/2010 2247
1,1-Dichloroethane	20	20		1	98	70-130	06/15/2010 2247
cis-1,2-Dichloroethene	20	19		1	96	70-130	06/15/2010 2247
1,1-Dichloroethene	20	22		1	108	70-130	06/15/2010 2247
trans-1,2-Dichloroethene	20	20		1	98	70-130	06/15/2010 2247
1,2-Dichloropropane	20	20		1	98	70-130	06/15/2010 2247
cis-1,3-Dichloropropene	20	21		1	103	70-130	06/15/2010 2247
trans-1,3-Dichloropropene	20	20		1	102	70-130	06/15/2010 2247
Ethylbenzene	20	20		1	100	70-130	06/15/2010 2247
2-Hexanone	40	42		1	104	60-140	06/15/2010 2247
Isopropylbenzene	20	21		1	104	70-130	06/15/2010 2247
Methyl acetate	20	26	N	1	131	15-128	06/15/2010 2247
Methyl tertiary butyl ether (MTBE)	20	21		1	103	70-130	06/15/2010 2247
4-Methyl-2-pentanone	40	41		1	103	60-140	06/15/2010 2247
Methylcyclohexane	20	22		1	111	70-130	06/15/2010 2247
Methylene chloride	20	20		1	102	70-130	06/15/2010 2247
Styrene	20	21		1	103	70-130	06/15/2010 2247
1,1,2,2-Tetrachloroethane	20	20		1	101	70-130	06/15/2010 2247
Tetrachloroethene	20	21		1	104	70-130	06/15/2010 2247
Toluene	20	20		1	100	70-130	06/15/2010 2247
1,1,2-Trichloro-1,2,2-Trifluoroethane	20	25		1	126	70-130	06/15/2010 2247
1,2,4-Trichlorobenzene	20	23		1	113	70-130	06/15/2010 2247
1,1,2-Trichloroethane	20	19		1	97	70-130	06/15/2010 2247
1,1,1-Trichloroethane	20	20		1	99	70-130	06/15/2010 2247

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35838-002
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	20	20		1	101	70-130	06/15/2010 2247
Trichlorofluoromethane	20	21		1	105	60-140	06/15/2010 2247
Vinyl chloride	20	22		1	108	60-140	06/15/2010 2247
Xylenes (total)	40	40		1	100	70-130	06/15/2010 2247

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35838-003
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	40	49		1	122	15	46-153	20	06/15/2010 2309
Benzene	20	20		1	100	1.4	70-130	20	06/15/2010 2309
Bromodichloromethane	20	20		1	98	1.4	70-130	20	06/15/2010 2309
Bromoform	20	19		1	93	4.7	70-130	20	06/15/2010 2309
Bromomethane (Methyl bromide)	20	20		1	99	4.7	60-140	20	06/15/2010 2309
2-Butanone (MEK)	40	43		1	107	2.8	60-140	20	06/15/2010 2309
Carbon disulfide	20	22		1	111	8.7	60-140	20	06/15/2010 2309
Carbon tetrachloride	20	20		1	101	0.93	70-130	20	06/15/2010 2309
Chlorobenzene	20	20		1	102	1.8	70-130	20	06/15/2010 2309
Chloroethane	20	21		1	105	1.9	42-163	20	06/15/2010 2309
Chloroform	20	19		1	97	1.4	70-130	20	06/15/2010 2309
Chloromethane (Methyl chloride)	20	22		1	112	0.37	20-158	20	06/15/2010 2309
Cyclohexane	20	24		1	121	2.5	70-130	20	06/15/2010 2309
1,2-Dibromo-3-chloropropane (DBCP)	20	21		1	103	2.9	70-130	20	06/15/2010 2309
Dibromochloromethane	20	20		1	98	1.6	70-130	20	06/15/2010 2309
1,2-Dibromoethane (EDB)	20	20		1	102	2.4	70-130	20	06/15/2010 2309
1,4-Dichlorobenzene	20	21		1	103	0.15	70-130	20	06/15/2010 2309
1,2-Dichlorobenzene	20	20		1	102	1.2	70-130	20	06/15/2010 2309
1,3-Dichlorobenzene	20	21		1	103	0.46	70-130	20	06/15/2010 2309
Dichlorodifluoromethane	20	22		1	108	1.3	60-140	20	06/15/2010 2309
1,2-Dichloroethane	20	19		1	97	1.1	70-130	20	06/15/2010 2309
1,1-Dichloroethane	20	20		1	101	3.3	70-130	20	06/15/2010 2309
cis-1,2-Dichloroethene	20	19		1	95	0.92	70-130	20	06/15/2010 2309
1,1-Dichloroethene	20	22		1	110	2.4	70-130	20	06/15/2010 2309
trans-1,2-Dichloroethene	20	20		1	100	2.3	70-130	20	06/15/2010 2309
1,2-Dichloropropane	20	20		1	100	2.6	70-130	20	06/15/2010 2309
cis-1,3-Dichloropropene	20	20		1	102	0.82	70-130	20	06/15/2010 2309
trans-1,3-Dichloropropene	20	20		1	102	0.15	70-130	20	06/15/2010 2309
Ethylbenzene	20	20		1	101	1.7	70-130	20	06/15/2010 2309
2-Hexanone	40	42		1	105	0.94	60-140	20	06/15/2010 2309
Isopropylbenzene	20	21		1	105	1.6	70-130	20	06/15/2010 2309
Methyl acetate	20	24		1	120	8.3	15-128	20	06/15/2010 2309
Methyl tertiary butyl ether (MTBE)	20	20		1	99	3.1	70-130	20	06/15/2010 2309
4-Methyl-2-pentanone	40	42		1	105	1.6	60-140	20	06/15/2010 2309
Methylcyclohexane	20	22		1	112	1.6	70-130	20	06/15/2010 2309
Methylene chloride	20	21		1	104	2.8	70-130	20	06/15/2010 2309
Styrene	20	21		1	104	1.7	70-130	20	06/15/2010 2309
1,1,2,2-Tetrachloroethane	20	20		1	101	0.13	70-130	20	06/15/2010 2309
Tetrachloroethene	20	21		1	105	1.7	70-130	20	06/15/2010 2309
Toluene	20	20		1	102	2.3	70-130	20	06/15/2010 2309
1,1,2-Trichloro-1,2,2-Trifluoroethane	20	26		1	130	3.1	70-130	20	06/15/2010 2309
1,2,4-Trichlorobenzene	20	22		1	108	4.2	70-130	20	06/15/2010 2309
1,1,2-Trichloroethane	20	20		1	99	1.7	70-130	20	06/15/2010 2309
1,1,1-Trichloroethane	20	20		1	102	2.8	70-130	20	06/15/2010 2309

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35838-003
Batch: 35838
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	20	20		1	102	1.1	70-130	20	06/15/2010 2309
Trichlorofluoromethane	20	21		1	106	1.5	60-140	20	06/15/2010 2309
Vinyl chloride	20	22		1	109	1.2	60-140	20	06/15/2010 2309
Xylenes (total)	40	41		1	103	2.8	70-130	20	06/15/2010 2309

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35990-001
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	06/15/2010 0219
Benzene	ND		1	5.0	1.1	ug/kg	06/15/2010 0219
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Bromoform	ND		1	5.0	0.70	ug/kg	06/15/2010 0219
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	06/15/2010 0219
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	06/15/2010 0219
Carbon disulfide	ND		1	5.0	1.3	ug/kg	06/15/2010 0219
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	06/15/2010 0219
Chlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Chloroethane	ND		1	5.0	1.3	ug/kg	06/15/2010 0219
Chloroform	ND		1	5.0	0.83	ug/kg	06/15/2010 0219
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	06/15/2010 0219
Cyclohexane	ND		1	5.0	0.67	ug/kg	06/15/2010 0219
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	06/15/2010 0219
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	06/15/2010 0219
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	06/15/2010 0219
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	06/15/2010 0219
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	06/15/2010 0219
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	06/15/2010 0219
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	06/15/2010 0219
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	06/15/2010 0219
Ethylbenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
2-Hexanone	ND		1	10	1.3	ug/kg	06/15/2010 0219
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	06/15/2010 0219
Methyl acetate	ND		1	5.0	0.67	ug/kg	06/15/2010 0219
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	06/15/2010 0219
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	06/15/2010 0219
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	06/15/2010 0219
Methylene chloride	ND		1	5.0	2.6	ug/kg	06/15/2010 0219
Styrene	ND		1	5.0	1.1	ug/kg	06/15/2010 0219
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	06/15/2010 0219
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	06/15/2010 0219
Toluene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	06/15/2010 0219
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	06/15/2010 0219
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	06/15/2010 0219
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	06/15/2010 0219

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ35990-001
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	06/15/2010 0219
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	06/15/2010 0219
Vinyl chloride	ND		1	5.0	0.86	ug/kg	06/15/2010 0219
Xylenes (total)	ND		1	5.0	2.9	ug/kg	06/15/2010 0219

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	47-138
1,2-Dichloroethane-d4		100	53-142
Toluene-d8		111	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35990-002
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	100		1	100	42-149	06/15/2010 0046
Benzene	50	47		1	94	69-123	06/15/2010 0046
Bromodichloromethane	50	47		1	95	69-121	06/15/2010 0046
Bromoform	50	48		1	95	61-119	06/15/2010 0046
Bromomethane (Methyl bromide)	50	41		1	82	35-144	06/15/2010 0046
2-Butanone (MEK)	100	99		1	99	57-148	06/15/2010 0046
Carbon disulfide	50	53		1	106	58-122	06/15/2010 0046
Carbon tetrachloride	50	49		1	99	58-136	06/15/2010 0046
Chlorobenzene	50	48		1	96	59-129	06/15/2010 0046
Chloroethane	50	50		1	100	50-132	06/15/2010 0046
Chloroform	50	46		1	93	71-125	06/15/2010 0046
Chloromethane (Methyl chloride)	50	37		1	75	34-134	06/15/2010 0046
Cyclohexane	50	51		1	103	53-139	06/15/2010 0046
1,2-Dibromo-3-chloropropane (DBCP)	50	49		1	98	55-125	06/15/2010 0046
Dibromochloromethane	50	48		1	96	66-119	06/15/2010 0046
1,2-Dibromoethane (EDB)	50	51		1	102	74-124	06/15/2010 0046
1,4-Dichlorobenzene	50	50		1	100	52-133	06/15/2010 0046
1,3-Dichlorobenzene	50	50		1	100	51-134	06/15/2010 0046
1,2-Dichlorobenzene	50	49		1	98	57-131	06/15/2010 0046
Dichlorodifluoromethane	50	53		1	106	10-157	06/15/2010 0046
1,2-Dichloroethane	50	46		1	92	67-129	06/15/2010 0046
1,1-Dichloroethane	50	47		1	94	71-127	06/15/2010 0046
trans-1,2-Dichloroethene	50	48		1	96	68-131	06/15/2010 0046
cis-1,2-Dichloroethene	50	48		1	96	70-122	06/15/2010 0046
1,1-Dichloroethene	50	48		1	96	69-138	06/15/2010 0046
1,2-Dichloropropane	50	46		1	92	72-124	06/15/2010 0046
trans-1,3-Dichloropropene	50	51		1	102	70-124	06/15/2010 0046
cis-1,3-Dichloropropene	50	51		1	103	70-126	06/15/2010 0046
Ethylbenzene	50	50		1	100	59-128	06/15/2010 0046
2-Hexanone	100	110		1	106	54-137	06/15/2010 0046
Isopropylbenzene	50	52		1	104	50-136	06/15/2010 0046
Methyl acetate	50	49		1	97	59-137	06/15/2010 0046
Methyl tertiary butyl ether (MTBE)	50	50		1	100	72-122	06/15/2010 0046
4-Methyl-2-pentanone	100	100		1	105	60-134	06/15/2010 0046
Methylcyclohexane	50	55		1	111	41-144	06/15/2010 0046
Methylene chloride	50	47		1	94	77-129	06/15/2010 0046
Styrene	50	50		1	100	54-136	06/15/2010 0046
1,1,2,2-Tetrachloroethane	50	50		1	100	69-132	06/15/2010 0046
Tetrachloroethene	50	50		1	99	70-130	06/15/2010 0046
Toluene	50	48		1	96	61-129	06/15/2010 0046
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	57		1	113	49-136	06/15/2010 0046
1,2,4-Trichlorobenzene	50	56		1	112	34-145	06/15/2010 0046
1,1,2-Trichloroethane	50	47		1	94	55-128	06/15/2010 0046
1,1,1-Trichloroethane	50	48		1	97	63-128	06/15/2010 0046

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ35990-002
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	50		1	99	62-126	06/15/2010 0046
Trichlorofluoromethane	50	51		1	101	45-138	06/15/2010 0046
Vinyl chloride	50	38		1	77	42-132	06/15/2010 0046
Xylenes (total)	100	100		1	101	58-128	06/15/2010 0046

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		117	47-138
1,2-Dichloroethane-d4		98	53-142
Toluene-d8		111	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35990-003
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	120	18	42-149	20	06/15/2010 0109
Benzene	50	57		1	114	19	69-123	20	06/15/2010 0109
Bromodichloromethane	50	57		1	115	19	69-121	20	06/15/2010 0109
Bromoform	50	55		1	109	14	61-119	20	06/15/2010 0109
Bromomethane (Methyl bromide)	50	43		1	86	4.3	35-144	20	06/15/2010 0109
2-Butanone (MEK)	100	120		1	120	20	57-148	20	06/15/2010 0109
Carbon disulfide	50	64	N	1	129	19	58-122	20	06/15/2010 0109
Carbon tetrachloride	50	61	+	1	121	21	58-136	20	06/15/2010 0109
Chlorobenzene	50	57		1	114	17	59-129	20	06/15/2010 0109
Chloroethane	50	59		1	117	16	50-132	20	06/15/2010 0109
Chloroform	50	55		1	110	17	71-125	20	06/15/2010 0109
Chloromethane (Methyl chloride)	50	43		1	87	15	34-134	20	06/15/2010 0109
Cyclohexane	50	63	+	1	126	21	53-139	20	06/15/2010 0109
1,2-Dibromo-3-chloropropane (DBCP)	50	62	+	1	124	24	55-125	20	06/15/2010 0109
Dibromochloromethane	50	57		1	114	17	66-119	20	06/15/2010 0109
1,2-Dibromoethane (EDB)	50	58		1	116	14	74-124	20	06/15/2010 0109
1,4-Dichlorobenzene	50	60		1	119	17	52-133	20	06/15/2010 0109
1,3-Dichlorobenzene	50	60		1	119	18	51-134	20	06/15/2010 0109
1,2-Dichlorobenzene	50	59		1	117	18	57-131	20	06/15/2010 0109
Dichlorodifluoromethane	50	60		1	121	13	10-157	20	06/15/2010 0109
1,2-Dichloroethane	50	53		1	105	14	67-129	20	06/15/2010 0109
1,1-Dichloroethane	50	57		1	114	20	71-127	20	06/15/2010 0109
trans-1,2-Dichloroethene	50	59		1	117	19	68-131	20	06/15/2010 0109
cis-1,2-Dichloroethene	50	56		1	113	16	70-122	20	06/15/2010 0109
1,1-Dichloroethene	50	58		1	117	19	69-138	20	06/15/2010 0109
1,2-Dichloropropane	50	55		1	111	18	72-124	20	06/15/2010 0109
trans-1,3-Dichloropropene	50	60		1	119	15	70-124	20	06/15/2010 0109
cis-1,3-Dichloropropene	50	61		1	122	17	70-126	20	06/15/2010 0109
Ethylbenzene	50	61		1	121	19	59-128	20	06/15/2010 0109
2-Hexanone	100	130		1	129	19	54-137	20	06/15/2010 0109
Isopropylbenzene	50	64	+	1	128	21	50-136	20	06/15/2010 0109
Methyl acetate	50	59		1	118	19	59-137	20	06/15/2010 0109
Methyl tertiary butyl ether (MTBE)	50	58		1	115	15	72-122	20	06/15/2010 0109
4-Methyl-2-pentanone	100	130	+	1	129	21	60-134	20	06/15/2010 0109
Methylcyclohexane	50	69	+	1	138	22	41-144	20	06/15/2010 0109
Methylene chloride	50	55		1	110	15	77-129	20	06/15/2010 0109
Styrene	50	58		1	117	16	54-136	20	06/15/2010 0109
1,1,2,2-Tetrachloroethane	50	60		1	119	18	69-132	20	06/15/2010 0109
Tetrachloroethene	50	61		1	121	20	70-130	20	06/15/2010 0109
Toluene	50	59		1	117	19	61-129	20	06/15/2010 0109
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	69	N	1	137	19	49-136	20	06/15/2010 0109
1,2,4-Trichlorobenzene	50	65		1	131	16	34-145	20	06/15/2010 0109
1,1,2-Trichloroethane	50	55		1	110	16	55-128	20	06/15/2010 0109
1,1,1-Trichloroethane	50	59		1	118	20	63-128	20	06/15/2010 0109

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ35990-003
Batch: 35990
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	61	+	1	123	21	62-126	20	06/15/2010 0109
Trichlorofluoromethane	50	61		1	122	19	45-138	20	06/15/2010 0109
Vinyl chloride	50	46		1	91	17	42-132	20	06/15/2010 0109
Xylenes (total)	100	120		1	121	18	58-128	20	06/15/2010 0109

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		116	47-138
1,2-Dichloroethane-d4		98	53-142
Toluene-d8		112	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 104929

Client: Arcadis	Report to Contact: Scott Bastian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bastian@arcadis-us.com	Quote No.: 11954
Address: 2849 Paces Ferry Rd. #400	Sampler's Signature: X	Waybill No.	Page: 1 of 1
City: Atlanta	State: GA	Zip Code: 30339	Printed Name: Josh Frizzell
Project Name: HAA-17			Analysis (Attach list if more space is needed.)
Project No.: GP08HAFS.H17B.DG0FI	P.O. No.		Lot No.: CF1205

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres	H2SO4	HNO3	HCl	NaOH	Spec Kit	VOCs	Remarks / Cooler I.D.
H17-SED-01 (061110)	6-11-10	1015	G		X							X	X	
H17-SW-01 (061110)	6-11-10	1015	G	X						3			X	
H17-SED-02 (061110)	6-11-10	0950	G		X							X	X	
H17-SW-02 (061110)	6-11-10	0950	G	X						3			X	
H17-SED-03 (061110)	6-11-10	0920	G		X							X	X	
H17-SW-03 (061110)	6-11-10	0920	G	X						3			X	
Trip Blank														

6-11-2010

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☒ Rush (Specify) 1 Week TAT

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	6-11-10	1500	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by: Fed Ex	6/12/10	1020	3. Laboratory received by	6/12/10	1020

Comments:

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack
Receipt Temp. 4.4 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 5

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: MM 4/6/10 Lot #: 402005

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other			
Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt 4 4.6 °C 4.8 °C / °C / °C cooler 4 °C / °C / °C / °C Method: ☑ Temperature Blank ☑ Against Bottles Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None			
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.			
Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☑	No ☐	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) -002 (2) were received with bubbles >6 mm in diameter.

Sample(s)_____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s)_____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee:_____ Date of response:_____

Comments:_____

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: HAA-17

Project Number: GP08HAFS.H17B.FG0F1

Lot Number: KL09046

Date Completed: 12/23/2009



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

KL09046

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KL09046

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The surrogate recovery for sample -004 was outside the acceptance limit. This sample was diluted. The dilution impacted the surrogate recoveries, thus negating their usefulness concerning quality control. The sample results are reported and no corrective action is required.

The LCS/LCSD recovery for Tetrachloroethene was slightly above method control limits in batch 24016. As per method, it is statistically likely that a few analytes will be outside control limits; up to five analytes may marginally exceed the control limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for Acetone and 2-Butanone (MEK) exceeded method control limits in batch 24016; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCS recovery for Acetone, Carbon disulfide, Chloromethane (Methyl chloride) and Vinyl chloride were slightly above method control limits in batch 24175. The LCSD Chloromethane (Methyl chloride) was slightly above method control limits in this batch. As per method, it is statistically likely that a few analytes will be outside control limits; up to five analytes may marginally exceed the control limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for Acetone and Chloroethane exceeded method control limits in batch 24175; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KL09046

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-AF01 (120709)- (21-22)	Solid	12/07/2009 1435	12/09/2009
002	H17-AF01 (120709)- (31-32)	Solid	12/07/2009 1615	12/09/2009
003	H17-AF01 (120709)- (37-38)	Solid	12/07/2009 1620	12/09/2009
004	H17-AF62 (120809)- (21-22)	Solid	12/08/2009 0945	12/09/2009
005	H17-AF62 (120809)- (26-27)	Solid	12/08/2009 0950	12/09/2009
006	H17-AF62 (120809)- (36-37)	Solid	12/08/2009 0955	12/09/2009
007	H17-AF53 (120809)- (25-26)	Solid	12/08/2009 1145	12/09/2009
008	H17-AF53 (120809)- (35-36)	Solid	12/08/2009 1150	12/09/2009
009	H17-AF53 (120809)- (42-43)	Solid	12/08/2009 1155	12/09/2009
010	H17-AF15 (120809)- (21-22)	Solid	12/08/2009 1540	12/09/2009
011	H17-AF15 (120809)- (29-30)	Solid	12/08/2009 1545	12/09/2009
012	H17-AF15 (120809)- (37-38)	Solid	12/08/2009 1550	12/09/2009
013	H17-AF15 (120809)- (44-45)	Solid	12/08/2009 1555	12/09/2009

(13 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: KL09046

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-AF01 (120709)- (21-	Solid	Trichloroethene	8260B	350		ug/kg	6
002	H17-AF01 (120709)- (31-	Solid	cis-1,2-Dichloroethene	8260B	22	J	ug/kg	7
002	H17-AF01 (120709)- (31-	Solid	Trichloroethene	8260B	470		ug/kg	8
005	H17-AF62 (120809)- (26-	Solid	cis-1,2-Dichloroethene	8260B	31	J	ug/kg	13
005	H17-AF62 (120809)- (26-	Solid	4-Methyl-2-pentanone	8260B	37	J	ug/kg	13
005	H17-AF62 (120809)- (26-	Solid	Toluene	8260B	36	J	ug/kg	13
005	H17-AF62 (120809)- (26-	Solid	Trichloroethene	8260B	200		ug/kg	14
006	H17-AF62 (120809)- (36-	Solid	Carbon disulfide	8260B	4.9	J	ug/kg	15
007	H17-AF53 (120809)- (25-	Solid	Acetone	8260B	36		ug/kg	17
007	H17-AF53 (120809)- (25-	Solid	Carbon disulfide	8260B	18		ug/kg	17
007	H17-AF53 (120809)- (25-	Solid	Trichloroethene	8260B	36		ug/kg	18
008	H17-AF53 (120809)- (35-	Solid	Carbon disulfide	8260B	12		ug/kg	19
008	H17-AF53 (120809)- (35-	Solid	Trichloroethene	8260B	8.8		ug/kg	20
009	H17-AF53 (120809)- (42-	Solid	Carbon disulfide	8260B	2.6	J	ug/kg	21
009	H17-AF53 (120809)- (42-	Solid	Trichloroethene	8260B	5.3		ug/kg	22
010	H17-AF15 (120809)- (21-	Solid	Acetone	8260B	200		ug/kg	23
010	H17-AF15 (120809)- (21-	Solid	Carbon disulfide	8260B	11		ug/kg	23
010	H17-AF15 (120809)- (21-	Solid	Methylene chloride	8260B	4.5	J	ug/kg	23
010	H17-AF15 (120809)- (21-	Solid	Trichloroethene	8260B	35		ug/kg	24
010	H17-AF15 (120809)- (21-	Solid	Xylenes (total)	8260B	4.7	J	ug/kg	24
011	H17-AF15 (120809)- (29-	Solid	Acetone	8260B	280		ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Carbon disulfide	8260B	30		ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	cis-1,2-Dichloroethene	8260B	2.2	J	ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Ethylbenzene	8260B	6.4	J	ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Methylene chloride	8260B	7.0	J	ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Tetrachloroethene	8260B	7.5	J	ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Toluene	8260B	5.1	J	ug/kg	25
011	H17-AF15 (120809)- (29-	Solid	Trichloroethene	8260B	77		ug/kg	26
011	H17-AF15 (120809)- (29-	Solid	Xylenes (total)	8260B	41		ug/kg	26
012	H17-AF15 (120809)- (37-	Solid	Acetone	8260B	130		ug/kg	27
012	H17-AF15 (120809)- (37-	Solid	Carbon disulfide	8260B	1.5	J	ug/kg	27
013	H17-AF15 (120809)- (44-	Solid	Acetone	8260B	180		ug/kg	29
013	H17-AF15 (120809)- (44-	Solid	Carbon disulfide	8260B	3.2	J	ug/kg	29

(33 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-001
Description: H17-AF01 (120709)- (21-22)
Matrix: Solid
Date Sampled: 12/07/2009 1435
% Solids: 78.3 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1725	RRH		24016	10.95

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		580	200	ug/kg	2
Benzene	71-43-2	8260B	ND		150	32	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		150	50	ug/kg	2
Bromoform	75-25-2	8260B	ND		150	20	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		150	53	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		290	70	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		150	38	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		150	53	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		150	50	ug/kg	2
Chloroethane	75-00-3	8260B	ND		150	38	ug/kg	2
Chloroform	67-66-3	8260B	ND		150	24	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		150	29	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		150	20	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		150	44	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		150	50	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		150	25	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		150	50	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		150	50	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		150	50	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		150	47	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		150	21	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		150	29	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		150	50	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND		150	22	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		150	44	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		150	27	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		150	20	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		150	24	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		150	50	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		290	38	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		150	23	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		150	20	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		150	12	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		290	44	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		150	18	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		150	76	ug/kg	2
Styrene	100-42-5	8260B	ND		150	32	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		150	14	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		150	67	ug/kg	2
Toluene	108-88-3	8260B	ND		150	50	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		150	61	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		150	50	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		150	25	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		150	23	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-001
Description: H17-AF01 (120709)- (21-22)
Matrix: Solid
Date Sampled: 12/07/2009 1435
% Solids: 78.3 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1725	RRH		24016	10.95

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	350		150	55	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		150	44	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		150	25	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		150	85	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		80	53-142
Bromofluorobenzene		79	47-138
Toluene-d8		83	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-002
Description: H17-AF01 (120709)- (31-32)
Matrix: Solid
Date Sampled: 12/07/2009 1615
% Solids: 78.2 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1748	RRH		24016	11.49

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		560	190	ug/kg	2
Benzene	71-43-2	8260B	ND		140	31	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		140	47	ug/kg	2
Bromoform	75-25-2	8260B	ND		140	19	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		140	50	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		280	67	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		140	36	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		140	50	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		140	47	ug/kg	2
Chloroethane	75-00-3	8260B	ND		140	36	ug/kg	2
Chloroform	67-66-3	8260B	ND		140	23	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		140	28	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		140	19	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		140	42	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		140	47	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		140	24	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		140	47	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		140	47	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		140	47	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		140	45	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		140	20	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		140	28	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		140	47	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	22	J	140	21	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		140	42	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		140	25	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		140	19	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		140	23	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		140	47	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		280	36	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		140	22	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		140	19	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		140	11	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		280	42	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		140	17	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		140	72	ug/kg	2
Styrene	100-42-5	8260B	ND		140	31	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		140	13	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		140	64	ug/kg	2
Toluene	108-88-3	8260B	ND		140	47	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		140	58	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		140	47	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		140	24	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		140	22	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-002
Description: H17-AF01 (120709)- (31-32)
Matrix: Solid
Date Sampled: 12/07/2009 1615
% Solids: 78.2 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1748	RRH		24016	11.49

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	470		140	53	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		140	42	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		140	24	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		140	81	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		82	53-142
Bromofluorobenzene		80	47-138
Toluene-d8		84	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-003
Description: H17-AF01 (120709)- (37-38)
Matrix: Solid
Date Sampled: 12/07/2009 1620
% Solids: 86.6 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1810	RRH		24016	13.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		440	150	ug/kg	2
Benzene	71-43-2	8260B	ND		110	24	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		110	37	ug/kg	2
Bromoform	75-25-2	8260B	ND		110	15	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		110	39	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		220	53	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		110	29	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		110	39	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		110	37	ug/kg	2
Chloroethane	75-00-3	8260B	ND		110	29	ug/kg	2
Chloroform	67-66-3	8260B	ND		110	18	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		110	22	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		110	15	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		110	33	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		110	37	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		110	19	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		110	37	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		110	37	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		110	37	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		110	35	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		110	16	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		110	22	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		110	37	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND		110	17	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		110	33	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		110	20	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		110	15	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		110	18	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		110	37	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		220	29	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		110	18	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		110	15	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		110	8.8	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		220	33	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		110	13	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		110	57	ug/kg	2
Styrene	100-42-5	8260B	ND		110	24	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		110	10	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		110	50	ug/kg	2
Toluene	108-88-3	8260B	ND		110	37	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		110	46	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		110	37	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		110	19	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		110	17	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-003
Description: H17-AF01 (120709)- (37-38)
Matrix: Solid
Date Sampled: 12/07/2009 1620
% Solids: 86.6 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1810	RRH		24016	13.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		110	42	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		110	33	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		110	19	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		110	64	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		72	53-142
Bromofluorobenzene		69	47-138
Toluene-d8		74	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-004
Description: H17-AF62 (120809)- (21-22)
Matrix: Solid
Date Sampled: 12/08/2009 0945
% Solids: 80.0 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1833	RRH		24016	10.93

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		570	190	ug/kg	2
Benzene	71-43-2	8260B	ND		140	31	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		140	49	ug/kg	2
Bromoform	75-25-2	8260B	ND		140	20	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		140	51	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		290	69	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		140	37	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		140	51	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		140	49	ug/kg	2
Chloroethane	75-00-3	8260B	ND		140	37	ug/kg	2
Chloroform	67-66-3	8260B	ND		140	24	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		140	29	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		140	19	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		140	43	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		140	49	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		140	24	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		140	49	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		140	49	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		140	49	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		140	46	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		140	21	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		140	29	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		140	49	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND		140	22	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		140	43	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		140	26	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		140	19	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		140	23	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		140	49	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		290	37	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		140	23	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		140	19	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		140	11	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		290	43	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		140	17	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		140	74	ug/kg	2
Styrene	100-42-5	8260B	ND		140	31	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		140	13	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		140	66	ug/kg	2
Toluene	108-88-3	8260B	ND		140	49	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		140	60	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		140	49	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		140	24	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		140	23	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-004
Description: H17-AF62 (120809)- (21-22)
Matrix: Solid
Date Sampled: 12/08/2009 0945
% Solids: 80.0 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1833	RRH		24016	10.93

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		140	54	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		140	43	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		140	25	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		140	83	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	N	0.00	53-142
Bromofluorobenzene	N	0.00	47-138
Toluene-d8	N	0.00	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: H17-AF62 (120809)- (26-27)
Date Sampled: 12/08/2009 0950
Date Received: 12/09/2009

Laboratory ID: KL09046-005
Matrix: Solid
% Solids: 86.8 12/09/2009 1808

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1855	RRH		24016	13.69

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		420	140	ug/kg	2
Benzene	71-43-2	8260B	ND		110	23	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		110	36	ug/kg	2
Bromoform	75-25-2	8260B	ND		110	15	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		110	38	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		210	50	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND		110	27	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		110	38	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		110	36	ug/kg	2
Chloroethane	75-00-3	8260B	ND		110	27	ug/kg	2
Chloroform	67-66-3	8260B	ND		110	17	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		110	21	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		110	14	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		110	32	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		110	36	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		110	18	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		110	36	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		110	36	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		110	36	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		110	34	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		110	15	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		110	21	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		110	36	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	31	J	110	16	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		110	32	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		110	19	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		110	14	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		110	17	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		110	36	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		210	27	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		110	17	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		110	14	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		110	8.4	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	37	J	210	32	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		110	13	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		110	55	ug/kg	2
Styrene	100-42-5	8260B	ND		110	23	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		110	9.9	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		110	48	ug/kg	2
Toluene	108-88-3	8260B	36	J	110	36	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		110	44	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		110	36	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		110	18	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		110	17	ug/kg	2

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-005
Description: H17-AF62 (120809)- (26-27)
Matrix: Solid
Date Sampled: 12/08/2009 0950
% Solids: 86.8 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	50	12/18/2009 1855	RRH		24016	13.69

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	200		110	40	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		110	32	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		110	18	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		110	61	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142
Bromofluorobenzene		65	47-138
Toluene-d8		69	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-006
Description: H17-AF62 (120809)- (36-37)
Matrix: Solid
Date Sampled: 12/08/2009 0955
% Solids: 90.1 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2100	RRH		24175	5.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		21	7.1	ug/kg	1
Benzene	71-43-2	8260B	ND		5.3	1.2	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		5.3	1.8	ug/kg	1
Bromoform	75-25-2	8260B	ND		5.3	0.75	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.3	1.9	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		11	2.6	ug/kg	1
Carbon disulfide	75-15-0	8260B	4.9	J	5.3	1.4	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		5.3	1.9	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		5.3	1.8	ug/kg	1
Chloroethane	75-00-3	8260B	ND		5.3	1.4	ug/kg	1
Chloroform	67-66-3	8260B	ND		5.3	0.88	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.3	1.1	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		5.3	0.72	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.3	1.6	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		5.3	1.8	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.3	0.91	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.3	1.8	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.3	1.8	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.3	1.8	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.3	1.7	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.3	0.78	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.3	1.1	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.3	1.8	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.3	0.81	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.3	1.6	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.3	0.97	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.3	0.72	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.3	0.87	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.3	1.8	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		11	1.4	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		5.3	0.85	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		5.3	0.71	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.3	0.43	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		11	1.6	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		5.3	0.65	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		5.3	2.8	ug/kg	1
Styrene	100-42-5	8260B	ND		5.3	1.2	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.3	0.50	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		5.3	2.4	ug/kg	1
Toluene	108-88-3	8260B	ND		5.3	1.8	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.3	2.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.3	1.8	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.3	0.91	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.3	0.84	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-006
Description: H17-AF62 (120809)- (36-37)
Matrix: Solid
Date Sampled: 12/08/2009 0955
% Solids: 90.1 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2100	RRH		24175	5.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		5.3	2.0	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.3	1.6	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		5.3	0.92	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.3	3.1	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142
Bromofluorobenzene		91	47-138
Toluene-d8		86	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-007
Description: H17-AF53 (120809)- (25-26)
Matrix: Solid
Date Sampled: 12/08/2009 1145
% Solids: 79.4 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2123	RRH		24175	5.96

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	36		21	7.1	ug/kg	1
Benzene	71-43-2	8260B	ND		5.3	1.2	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		5.3	1.8	ug/kg	1
Bromoform	75-25-2	8260B	ND		5.3	0.74	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.3	1.9	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		11	2.5	ug/kg	1
Carbon disulfide	75-15-0	8260B	18		5.3	1.4	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		5.3	1.9	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		5.3	1.8	ug/kg	1
Chloroethane	75-00-3	8260B	ND		5.3	1.4	ug/kg	1
Chloroform	67-66-3	8260B	ND		5.3	0.88	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.3	1.1	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		5.3	0.71	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.3	1.6	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		5.3	1.8	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.3	0.90	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.3	1.8	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.3	1.8	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.3	1.8	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.3	1.7	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.3	0.77	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.3	1.1	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.3	1.8	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.3	0.80	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.3	1.6	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.3	0.96	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.3	0.72	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.3	0.87	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.3	1.8	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		11	1.4	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		5.3	0.84	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		5.3	0.71	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.3	0.42	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		11	1.6	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		5.3	0.64	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		5.3	2.7	ug/kg	1
Styrene	100-42-5	8260B	ND		5.3	1.2	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.3	0.50	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		5.3	2.4	ug/kg	1
Toluene	108-88-3	8260B	ND		5.3	1.8	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.3	2.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.3	1.8	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.3	0.90	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.3	0.83	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-007
Description: H17-AF53 (120809)- (25-26)
Matrix: Solid
Date Sampled: 12/08/2009 1145
% Solids: 79.4 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2123	RRH		24175	5.96

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	36		5.3	2.0	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.3	1.6	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		5.3	0.91	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.3	3.1	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		72	53-142
Bromofluorobenzene		87	47-138
Toluene-d8		85	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: H17-AF53 (120809)- (35-36)
Date Sampled: 12/08/2009 1150
Date Received: 12/09/2009

Laboratory ID: KL09046-008
Matrix: Solid
% Solids: 86.1 12/09/2009 1808

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2146	RRH		24175	6.35

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		18	6.1	ug/kg	1
Benzene	71-43-2	8260B	ND		4.6	1.0	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		4.6	1.6	ug/kg	1
Bromoform	75-25-2	8260B	ND		4.6	0.64	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		4.6	1.6	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		9.1	2.2	ug/kg	1
Carbon disulfide	75-15-0	8260B	12		4.6	1.2	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		4.6	1.6	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		4.6	1.6	ug/kg	1
Chloroethane	75-00-3	8260B	ND		4.6	1.2	ug/kg	1
Chloroform	67-66-3	8260B	ND		4.6	0.76	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		4.6	0.91	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		4.6	0.62	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		4.6	1.4	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		4.6	1.6	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		4.6	0.78	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		4.6	1.6	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		4.6	1.6	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		4.6	1.6	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		4.6	1.5	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		4.6	0.67	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		4.6	0.91	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		4.6	1.6	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		4.6	0.69	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		4.6	1.4	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		4.6	0.83	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		4.6	0.62	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		4.6	0.75	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.6	1.6	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		9.1	1.2	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		4.6	0.73	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		4.6	0.61	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		4.6	0.37	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		9.1	1.4	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		4.6	0.56	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		4.6	2.4	ug/kg	1
Styrene	100-42-5	8260B	ND		4.6	1.0	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		4.6	0.43	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		4.6	2.1	ug/kg	1
Toluene	108-88-3	8260B	ND		4.6	1.6	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		4.6	1.9	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		4.6	1.6	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		4.6	0.78	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		4.6	0.72	ug/kg	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-008
Description: H17-AF53 (120809)- (35-36)
Matrix: Solid
Date Sampled: 12/08/2009 1150
% Solids: 86.1 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2146	RRH		24175	6.35

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	8.8		4.6	1.7	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		4.6	1.4	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		4.6	0.79	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		4.6	2.7	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142
Bromofluorobenzene		88	47-138
Toluene-d8		88	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-009
Description: H17-AF53 (120809)- (42-43)
Matrix: Solid
Date Sampled: 12/08/2009 1155
% Solids: 87.8 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2209	RRH		24175	7.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		16	5.3	ug/kg	1
Benzene	71-43-2	8260B	ND		4.0	0.87	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		4.0	1.3	ug/kg	1
Bromoform	75-25-2	8260B	ND		4.0	0.55	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		4.0	1.4	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.9	1.9	ug/kg	1
Carbon disulfide	75-15-0	8260B	2.6	J	4.0	1.0	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		4.0	1.4	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		4.0	1.3	ug/kg	1
Chloroethane	75-00-3	8260B	ND		4.0	1.0	ug/kg	1
Chloroform	67-66-3	8260B	ND		4.0	0.66	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		4.0	0.79	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		4.0	0.53	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		4.0	1.2	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		4.0	1.3	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		4.0	0.67	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		4.0	1.3	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		4.0	1.3	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		4.0	1.3	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		4.0	1.3	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		4.0	0.58	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		4.0	0.79	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		4.0	1.3	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		4.0	0.60	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		4.0	1.2	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		4.0	0.72	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		4.0	0.54	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		4.0	0.65	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.0	1.3	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.9	1.0	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		4.0	0.63	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		4.0	0.53	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		4.0	0.32	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.9	1.2	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		4.0	0.48	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		4.0	2.1	ug/kg	1
Styrene	100-42-5	8260B	ND		4.0	0.87	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		4.0	0.37	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		4.0	1.8	ug/kg	1
Toluene	108-88-3	8260B	ND		4.0	1.3	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		4.0	1.7	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		4.0	1.3	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		4.0	0.67	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		4.0	0.62	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-009
Description: H17-AF53 (120809)- (42-43)
Matrix: Solid
Date Sampled: 12/08/2009 1155
% Solids: 87.8 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2209	RRH		24175	7.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	5.3		4.0	1.5	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		4.0	1.2	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		4.0	0.68	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		4.0	2.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142
Bromofluorobenzene		89	47-138
Toluene-d8		87	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-010
Description: H17-AF15 (120809)- (21-22)
Matrix: Solid
Date Sampled: 12/08/2009 1540
% Solids: 79.8 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2233	RRH		24175	5.22

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	200		24	8.0	ug/kg	1
Benzene	71-43-2	8260B	ND		6.0	1.3	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		6.0	2.0	ug/kg	1
Bromoform	75-25-2	8260B	ND		6.0	0.84	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		6.0	2.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		12	2.9	ug/kg	1
Carbon disulfide	75-15-0	8260B	11		6.0	1.6	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		6.0	2.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		6.0	2.0	ug/kg	1
Chloroethane	75-00-3	8260B	ND		6.0	1.6	ug/kg	1
Chloroform	67-66-3	8260B	ND		6.0	1.0	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		6.0	1.2	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		6.0	0.81	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		6.0	1.8	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		6.0	2.0	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		6.0	1.0	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		6.0	2.0	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		6.0	2.0	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		6.0	2.0	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		6.0	1.9	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		6.0	0.88	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		6.0	1.2	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		6.0	2.0	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		6.0	0.91	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		6.0	1.8	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		6.0	1.1	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		6.0	0.82	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		6.0	0.98	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		6.0	2.0	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		12	1.6	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		6.0	0.96	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		6.0	0.80	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		6.0	0.48	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		12	1.8	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		6.0	0.73	ug/kg	1
Methylene chloride	75-09-2	8260B	4.5	J	6.0	3.1	ug/kg	1
Styrene	100-42-5	8260B	ND		6.0	1.3	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		6.0	0.56	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		6.0	2.8	ug/kg	1
Toluene	108-88-3	8260B	ND		6.0	2.0	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		6.0	2.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		6.0	2.0	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		6.0	1.0	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		6.0	0.95	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-010
Description: H17-AF15 (120809)- (21-22)
Matrix: Solid
Date Sampled: 12/08/2009 1540
% Solids: 79.8 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2233	RRH		24175	5.22

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	35		6.0	2.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		6.0	1.8	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		6.0	1.0	ug/kg	1
Xylenes (total)	1330-20-7	8260B	4.7	J	6.0	3.5	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		73	53-142
Bromofluorobenzene		86	47-138
Toluene-d8		85	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-011
Description: H17-AF15 (120809)- (29-30)
Matrix: Solid
Date Sampled: 12/08/2009 1545
% Solids: 72.3 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2256	RRH		24175	3.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	280		43	14	ug/kg	1
Benzene	71-43-2	8260B	ND		11	2.4	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		11	3.7	ug/kg	1
Bromoform	75-25-2	8260B	ND		11	1.5	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		11	3.9	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		22	5.2	ug/kg	1
Carbon disulfide	75-15-0	8260B	30		11	2.8	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		11	3.9	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		11	3.7	ug/kg	1
Chloroethane	75-00-3	8260B	ND		11	2.8	ug/kg	1
Chloroform	67-66-3	8260B	ND		11	1.8	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		11	2.2	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		11	1.5	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		11	3.2	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		11	3.7	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		11	1.8	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		11	3.7	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		11	3.7	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		11	3.7	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		11	3.4	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		11	1.6	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		11	2.2	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		11	3.7	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	2.2	J	11	1.6	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		11	3.2	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		11	2.0	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		11	1.5	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		11	1.8	ug/kg	1
Ethylbenzene	100-41-4	8260B	6.4	J	11	3.7	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		22	2.8	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		11	1.7	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		11	1.4	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		11	0.86	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		22	3.2	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		11	1.3	ug/kg	1
Methylene chloride	75-09-2	8260B	7.0	J	11	5.6	ug/kg	1
Styrene	100-42-5	8260B	ND		11	2.4	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		11	1.0	ug/kg	1
Tetrachloroethene	127-18-4	8260B	7.5	J	11	5.0	ug/kg	1
Toluene	108-88-3	8260B	5.1	J	11	3.7	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		11	4.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		11	3.7	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		11	1.8	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		11	1.7	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-011
Description: H17-AF15 (120809)- (29-30)
Matrix: Solid
Date Sampled: 12/08/2009 1545
% Solids: 72.3 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2256	RRH		24175	3.21

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	77		11	4.1	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		11	3.2	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		11	1.9	ug/kg	1
Xylenes (total)	1330-20-7	8260B	41		11	6.2	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		71	53-142
Bromofluorobenzene		83	47-138
Toluene-d8		84	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-012
Description: H17-AF15 (120809)- (37-38)
Matrix: Solid
Date Sampled: 12/08/2009 1550
% Solids: 88.5 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2320	RRH		24175	5.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	130		22	7.3	ug/kg	1
Benzene	71-43-2	8260B	ND		5.5	1.2	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		5.5	1.9	ug/kg	1
Bromoform	75-25-2	8260B	ND		5.5	0.77	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.5	2.0	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		11	2.6	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.5	J	5.5	1.4	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		5.5	2.0	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		5.5	1.9	ug/kg	1
Chloroethane	75-00-3	8260B	ND		5.5	1.4	ug/kg	1
Chloroform	67-66-3	8260B	ND		5.5	0.91	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.5	1.1	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		5.5	0.74	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.5	1.6	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		5.5	1.9	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.5	0.93	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.5	1.9	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.5	1.9	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.5	1.9	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.5	1.7	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.5	0.80	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.5	1.1	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.5	1.9	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.5	0.83	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.5	1.6	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.5	0.99	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.5	0.74	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.5	0.90	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		5.5	1.9	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		11	1.4	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		5.5	0.87	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		5.5	0.73	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.5	0.44	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		11	1.6	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		5.5	0.67	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		5.5	2.8	ug/kg	1
Styrene	100-42-5	8260B	ND		5.5	1.2	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.5	0.51	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		5.5	2.5	ug/kg	1
Toluene	108-88-3	8260B	ND		5.5	1.9	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		5.5	2.3	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.5	1.9	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.5	0.93	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.5	0.86	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-012
Description: H17-AF15 (120809)- (37-38)
Matrix: Solid
Date Sampled: 12/08/2009 1550
% Solids: 88.5 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2320	RRH		24175	5.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		5.5	2.1	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		5.5	1.6	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		5.5	0.94	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		5.5	3.2	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		73	53-142
Bromofluorobenzene		87	47-138
Toluene-d8		86	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-013
Description: H17-AF15 (120809)- (44-45)
Matrix: Solid
Date Sampled: 12/08/2009 1555
% Solids: 89.7 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2343	RRH		24175	5.96

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	180		19	6.3	ug/kg	1
Benzene	71-43-2	8260B	ND		4.7	1.0	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		4.7	1.6	ug/kg	1
Bromoform	75-25-2	8260B	ND		4.7	0.65	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		4.7	1.7	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		9.4	2.2	ug/kg	1
Carbon disulfide	75-15-0	8260B	3.2	J	4.7	1.2	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		4.7	1.7	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		4.7	1.6	ug/kg	1
Chloroethane	75-00-3	8260B	ND		4.7	1.2	ug/kg	1
Chloroform	67-66-3	8260B	ND		4.7	0.78	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		4.7	0.94	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		4.7	0.63	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		4.7	1.4	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		4.7	1.6	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		4.7	0.80	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		4.7	1.6	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		4.7	1.6	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		4.7	1.6	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		4.7	1.5	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		4.7	0.68	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		4.7	0.94	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		4.7	1.6	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		4.7	0.71	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		4.7	1.4	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		4.7	0.85	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		4.7	0.64	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		4.7	0.77	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.7	1.6	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		9.4	1.2	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		4.7	0.75	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		4.7	0.63	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		4.7	0.37	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		9.4	1.4	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		4.7	0.57	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		4.7	2.4	ug/kg	1
Styrene	100-42-5	8260B	ND		4.7	1.0	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		4.7	0.44	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		4.7	2.2	ug/kg	1
Toluene	108-88-3	8260B	ND		4.7	1.6	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		4.7	2.0	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		4.7	1.6	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		4.7	0.80	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		4.7	0.74	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL09046-013
Description: H17-AF15 (120809)- (44-45)
Matrix: Solid
Date Sampled: 12/08/2009 1555
% Solids: 89.7 12/09/2009 1808
Date Received: 12/09/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/22/2009 2343	RRH		24175	5.96

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		4.7	1.8	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		4.7	1.4	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		4.7	0.80	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		4.7	2.7	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142
Bromofluorobenzene		87	47-138
Toluene-d8		86	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24016-001
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		50	1000	340	ug/kg	12/17/2009 2003
Benzene	ND		50	250	55	ug/kg	12/17/2009 2003
Bromodichloromethane	ND		50	250	85	ug/kg	12/17/2009 2003
Bromoform	ND		50	250	35	ug/kg	12/17/2009 2003
Bromomethane (Methyl bromide)	ND		50	250	90	ug/kg	12/17/2009 2003
2-Butanone (MEK)	ND		50	500	120	ug/kg	12/17/2009 2003
Carbon disulfide	ND		50	250	65	ug/kg	12/17/2009 2003
Carbon tetrachloride	ND		50	250	90	ug/kg	12/17/2009 2003
Chlorobenzene	ND		50	250	85	ug/kg	12/17/2009 2003
Chloroethane	ND		50	250	65	ug/kg	12/17/2009 2003
Chloroform	ND		50	250	42	ug/kg	12/17/2009 2003
Chloromethane (Methyl chloride)	ND		50	250	50	ug/kg	12/17/2009 2003
Cyclohexane	ND		50	250	34	ug/kg	12/17/2009 2003
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	250	75	ug/kg	12/17/2009 2003
Dibromochloromethane	ND		50	250	85	ug/kg	12/17/2009 2003
1,2-Dibromoethane (EDB)	ND		50	250	43	ug/kg	12/17/2009 2003
1,4-Dichlorobenzene	ND		50	250	85	ug/kg	12/17/2009 2003
1,3-Dichlorobenzene	ND		50	250	85	ug/kg	12/17/2009 2003
1,2-Dichlorobenzene	ND		50	250	85	ug/kg	12/17/2009 2003
Dichlorodifluoromethane	ND		50	250	80	ug/kg	12/17/2009 2003
1,2-Dichloroethane	ND		50	250	50	ug/kg	12/17/2009 2003
1,1-Dichloroethane	ND		50	250	37	ug/kg	12/17/2009 2003
trans-1,2-Dichloroethene	ND		50	250	75	ug/kg	12/17/2009 2003
cis-1,2-Dichloroethene	ND		50	250	38	ug/kg	12/17/2009 2003
1,1-Dichloroethene	ND		50	250	85	ug/kg	12/17/2009 2003
1,2-Dichloropropane	ND		50	250	46	ug/kg	12/17/2009 2003
trans-1,3-Dichloropropene	ND		50	250	41	ug/kg	12/17/2009 2003
cis-1,3-Dichloropropene	ND		50	250	34	ug/kg	12/17/2009 2003
Ethylbenzene	ND		50	250	85	ug/kg	12/17/2009 2003
2-Hexanone	ND		50	500	65	ug/kg	12/17/2009 2003
Isopropylbenzene	ND		50	250	40	ug/kg	12/17/2009 2003
Methyl acetate	ND		50	250	34	ug/kg	12/17/2009 2003
Methyl tertiary butyl ether (MTBE)	ND		50	250	20	ug/kg	12/17/2009 2003
4-Methyl-2-pentanone	ND		50	500	75	ug/kg	12/17/2009 2003
Methylcyclohexane	ND		50	250	31	ug/kg	12/17/2009 2003
Methylene chloride	ND		50	250	130	ug/kg	12/17/2009 2003
Styrene	ND		50	250	55	ug/kg	12/17/2009 2003
1,1,2,2-Tetrachloroethane	ND		50	250	24	ug/kg	12/17/2009 2003
Tetrachloroethene	ND		50	250	110	ug/kg	12/17/2009 2003
Toluene	ND		50	250	85	ug/kg	12/17/2009 2003
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		50	250	110	ug/kg	12/17/2009 2003
1,2,4-Trichlorobenzene	ND		50	250	85	ug/kg	12/17/2009 2003
1,1,2-Trichloroethane	ND		50	250	40	ug/kg	12/17/2009 2003
1,1,1-Trichloroethane	ND		50	250	43	ug/kg	12/17/2009 2003

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24016-001
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		50	250	95	ug/kg	12/17/2009 2003
Trichlorofluoromethane	ND		50	250	75	ug/kg	12/17/2009 2003
Vinyl chloride	ND		50	250	43	ug/kg	12/17/2009 2003
Xylenes (total)	ND		50	250	150	ug/kg	12/17/2009 2003

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	47-138
1,2-Dichloroethane-d4		104	53-142
Toluene-d8		117	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24016-002
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	2000	840		50	42	42-149	12/17/2009 2026
Benzene	1000	1200		50	116	69-123	12/17/2009 2026
Bromodichloromethane	1000	1000		50	102	69-121	12/17/2009 2026
Bromoform	1000	1000		50	103	61-119	12/17/2009 2026
Bromomethane (Methyl bromide)	1000	740		50	74	35-144	12/17/2009 2026
2-Butanone (MEK)	2000	1500		50	74	57-148	12/17/2009 2026
Carbon disulfide	1000	1100		50	114	58-122	12/17/2009 2026
Carbon tetrachloride	1000	1200		50	121	58-136	12/17/2009 2026
Chlorobenzene	1000	1200		50	116	59-129	12/17/2009 2026
Chloroethane	1000	840		50	84	50-132	12/17/2009 2026
Chloroform	1000	1100		50	109	71-125	12/17/2009 2026
Chloromethane (Methyl chloride)	1000	580		50	58	34-134	12/17/2009 2026
Cyclohexane	1000	1300		50	128	53-139	12/17/2009 2026
1,2-Dibromo-3-chloropropane (DBCP)	1000	850		50	85	55-125	12/17/2009 2026
Dibromochloromethane	1000	990		50	99	66-119	12/17/2009 2026
1,2-Dibromoethane (EDB)	1000	1000		50	100	74-124	12/17/2009 2026
1,4-Dichlorobenzene	1000	1200		50	115	52-133	12/17/2009 2026
1,3-Dichlorobenzene	1000	1200		50	118	51-134	12/17/2009 2026
1,2-Dichlorobenzene	1000	1100		50	113	57-131	12/17/2009 2026
Dichlorodifluoromethane	1000	760		50	76	10-157	12/17/2009 2026
1,2-Dichloroethane	1000	1000		50	101	67-129	12/17/2009 2026
1,1-Dichloroethane	1000	1100		50	113	71-127	12/17/2009 2026
trans-1,2-Dichloroethene	1000	1200		50	118	68-131	12/17/2009 2026
cis-1,2-Dichloroethene	1000	1100		50	112	70-122	12/17/2009 2026
1,1-Dichloroethene	1000	1300		50	125	69-138	12/17/2009 2026
1,2-Dichloropropane	1000	1100		50	110	72-124	12/17/2009 2026
trans-1,3-Dichloropropene	1000	1000		50	100	70-124	12/17/2009 2026
cis-1,3-Dichloropropene	1000	1100		50	105	70-126	12/17/2009 2026
Ethylbenzene	1000	1200		50	120	59-128	12/17/2009 2026
2-Hexanone	2000	1700		50	87	54-137	12/17/2009 2026
Isopropylbenzene	1000	1200		50	122	50-136	12/17/2009 2026
Methyl acetate	1000	920		50	92	59-137	12/17/2009 2026
Methyl tertiary butyl ether (MTBE)	1000	1000		50	104	72-122	12/17/2009 2026
4-Methyl-2-pentanone	2000	1600		50	80	60-134	12/17/2009 2026
Methylcyclohexane	1000	1300		50	129	41-144	12/17/2009 2026
Methylene chloride	1000	1100		50	106	77-129	12/17/2009 2026
Styrene	1000	1200		50	115	54-136	12/17/2009 2026
1,1,2,2-Tetrachloroethane	1000	950		50	95	69-132	12/17/2009 2026
Tetrachloroethene	1000	1300	N	50	132	70-130	12/17/2009 2026
Toluene	1000	1200		50	118	61-129	12/17/2009 2026
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	1200		50	121	49-136	12/17/2009 2026
1,2,4-Trichlorobenzene	1000	1200		50	122	34-145	12/17/2009 2026
1,1,2-Trichloroethane	1000	1100		50	110	55-128	12/17/2009 2026
1,1,1-Trichloroethane	1000	1200		50	120	63-128	12/17/2009 2026

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24016-002
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	1000	1200		50	121	62-126	12/17/2009 2026
Trichlorofluoromethane	1000	1300		50	130	45-138	12/17/2009 2026
Vinyl chloride	1000	990		50	99	42-132	12/17/2009 2026
Xylenes (total)	2000	2400		50	119	58-128	12/17/2009 2026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		119	47-138
1,2-Dichloroethane-d4		109	53-142
Toluene-d8		122	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24016-003
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	2000	1200	+	50	60	35	42-149	20	12/17/2009 2049
Benzene	1000	1200		50	119	2.5	69-123	20	12/17/2009 2049
Bromodichloromethane	1000	1000		50	105	2.5	69-121	20	12/17/2009 2049
Bromoform	1000	1100		50	107	3.7	61-119	20	12/17/2009 2049
Bromomethane (Methyl bromide)	1000	700		50	70	6.6	35-144	20	12/17/2009 2049
2-Butanone (MEK)	2000	1900	+	50	95	24	57-148	20	12/17/2009 2049
Carbon disulfide	1000	1200		50	120	5.4	58-122	20	12/17/2009 2049
Carbon tetrachloride	1000	1300		50	126	4.3	58-136	20	12/17/2009 2049
Chlorobenzene	1000	1200		50	120	3.5	59-129	20	12/17/2009 2049
Chloroethane	1000	710		50	71	17	50-132	20	12/17/2009 2049
Chloroform	1000	1100		50	113	3.4	71-125	20	12/17/2009 2049
Chloromethane (Methyl chloride)	1000	660		50	66	12	34-134	20	12/17/2009 2049
Cyclohexane	1000	1400		50	135	5.5	53-139	20	12/17/2009 2049
1,2-Dibromo-3-chloropropane (DBCP)	1000	950		50	95	12	55-125	20	12/17/2009 2049
Dibromochloromethane	1000	1000		50	100	1.3	66-119	20	12/17/2009 2049
1,2-Dibromoethane (EDB)	1000	1000		50	103	3.5	74-124	20	12/17/2009 2049
1,4-Dichlorobenzene	1000	1200		50	119	3.3	52-133	20	12/17/2009 2049
1,3-Dichlorobenzene	1000	1200		50	120	1.6	51-134	20	12/17/2009 2049
1,2-Dichlorobenzene	1000	1200		50	116	2.7	57-131	20	12/17/2009 2049
Dichlorodifluoromethane	1000	800		50	80	4.6	10-157	20	12/17/2009 2049
1,2-Dichloroethane	1000	1000		50	104	3.8	67-129	20	12/17/2009 2049
1,1-Dichloroethane	1000	1200		50	118	4.1	71-127	20	12/17/2009 2049
trans-1,2-Dichloroethene	1000	1200		50	123	4.3	68-131	20	12/17/2009 2049
cis-1,2-Dichloroethene	1000	1200		50	116	3.4	70-122	20	12/17/2009 2049
1,1-Dichloroethene	1000	1300		50	132	4.9	69-138	20	12/17/2009 2049
1,2-Dichloropropane	1000	1100		50	113	3.5	72-124	20	12/17/2009 2049
trans-1,3-Dichloropropene	1000	1000		50	104	3.5	70-124	20	12/17/2009 2049
cis-1,3-Dichloropropene	1000	1100		50	109	3.1	70-126	20	12/17/2009 2049
Ethylbenzene	1000	1200		50	122	1.7	59-128	20	12/17/2009 2049
2-Hexanone	2000	1900		50	93	6.5	54-137	20	12/17/2009 2049
Isopropylbenzene	1000	1300		50	126	2.9	50-136	20	12/17/2009 2049
Methyl acetate	1000	1000		50	102	10	59-137	20	12/17/2009 2049
Methyl tertiary butyl ether (MTBE)	1000	1100		50	109	4.9	72-122	20	12/17/2009 2049
4-Methyl-2-pentanone	2000	1700		50	85	5.3	60-134	20	12/17/2009 2049
Methylcyclohexane	1000	1400		50	136	4.9	41-144	20	12/17/2009 2049
Methylene chloride	1000	1100		50	112	5.5	77-129	20	12/17/2009 2049
Styrene	1000	1200		50	118	2.0	54-136	20	12/17/2009 2049
1,1,2,2-Tetrachloroethane	1000	1000		50	101	5.8	69-132	20	12/17/2009 2049
Tetrachloroethene	1000	1400	N	50	136	2.7	70-130	20	12/17/2009 2049
Toluene	1000	1200		50	123	3.8	61-129	20	12/17/2009 2049
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	1300		50	125	3.6	49-136	20	12/17/2009 2049
1,2,4-Trichlorobenzene	1000	1300		50	127	4.0	34-145	20	12/17/2009 2049
1,1,2-Trichloroethane	1000	1200		50	117	6.5	55-128	20	12/17/2009 2049
1,1,1-Trichloroethane	1000	1200		50	123	3.2	63-128	20	12/17/2009 2049

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24016-003
Batch: 24016
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	1000	1200		50	123	1.1	62-126	20	12/17/2009 2049
Trichlorofluoromethane	1000	1300		50	133	2.1	45-138	20	12/17/2009 2049
Vinyl chloride	1000	1000		50	103	4.5	42-132	20	12/17/2009 2049
Xylenes (total)	2000	2400		50	120	0.61	58-128	20	12/17/2009 2049

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	47-138
1,2-Dichloroethane-d4		105	53-142
Toluene-d8		119	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24175-001
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/22/2009 2037
Benzene	ND		1	5.0	1.1	ug/kg	12/22/2009 2037
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
Bromoform	ND		1	5.0	0.70	ug/kg	12/22/2009 2037
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/22/2009 2037
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/22/2009 2037
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/22/2009 2037
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/22/2009 2037
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
Chloroethane	ND		1	5.0	1.3	ug/kg	12/22/2009 2037
Chloroform	ND		1	5.0	0.83	ug/kg	12/22/2009 2037
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/22/2009 2037
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/22/2009 2037
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/22/2009 2037
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/22/2009 2037
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/22/2009 2037
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/22/2009 2037
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/22/2009 2037
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/22/2009 2037
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/22/2009 2037
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/22/2009 2037
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/22/2009 2037
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/22/2009 2037
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
2-Hexanone	ND		1	10	1.3	ug/kg	12/22/2009 2037
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/22/2009 2037
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/22/2009 2037
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/22/2009 2037
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/22/2009 2037
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/22/2009 2037
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/22/2009 2037
Styrene	ND		1	5.0	1.1	ug/kg	12/22/2009 2037
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/22/2009 2037
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/22/2009 2037
Toluene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/22/2009 2037
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/22/2009 2037
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/22/2009 2037
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/22/2009 2037

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24175-001
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/22/2009 2037
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/22/2009 2037
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/22/2009 2037
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/22/2009 2037

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	47-138
1,2-Dichloroethane-d4		75	53-142
Toluene-d8		89	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24175-002
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	150	N	1	153	42-149	12/22/2009 1902
Benzene	50	58		1	115	69-123	12/22/2009 1902
Bromodichloromethane	50	58		1	116	69-121	12/22/2009 1902
Bromoform	50	57		1	115	61-119	12/22/2009 1902
Bromomethane (Methyl bromide)	50	50		1	101	35-144	12/22/2009 1902
2-Butanone (MEK)	100	130		1	134	57-148	12/22/2009 1902
Carbon disulfide	50	63	N	1	125	58-122	12/22/2009 1902
Carbon tetrachloride	50	59		1	117	58-136	12/22/2009 1902
Chlorobenzene	50	57		1	115	59-129	12/22/2009 1902
Chloroethane	50	45		1	91	50-132	12/22/2009 1902
Chloroform	50	57		1	113	71-125	12/22/2009 1902
Chloromethane (Methyl chloride)	50	79	N	1	158	34-134	12/22/2009 1902
Cyclohexane	50	55		1	109	53-139	12/22/2009 1902
1,2-Dibromo-3-chloropropane (DBCP)	50	57		1	114	55-125	12/22/2009 1902
Dibromochloromethane	50	58		1	117	66-119	12/22/2009 1902
1,2-Dibromoethane (EDB)	50	57		1	114	74-124	12/22/2009 1902
1,4-Dichlorobenzene	50	58		1	117	52-133	12/22/2009 1902
1,3-Dichlorobenzene	50	59		1	119	51-134	12/22/2009 1902
1,2-Dichlorobenzene	50	56		1	112	57-131	12/22/2009 1902
Dichlorodifluoromethane	50	75		1	150	10-157	12/22/2009 1902
1,2-Dichloroethane	50	55		1	111	67-129	12/22/2009 1902
1,1-Dichloroethane	50	57		1	114	71-127	12/22/2009 1902
trans-1,2-Dichloroethene	50	58		1	116	68-131	12/22/2009 1902
cis-1,2-Dichloroethene	50	57		1	115	70-122	12/22/2009 1902
1,1-Dichloroethene	50	60		1	119	69-138	12/22/2009 1902
1,2-Dichloropropane	50	57		1	115	72-124	12/22/2009 1902
trans-1,3-Dichloropropene	50	59		1	118	70-124	12/22/2009 1902
cis-1,3-Dichloropropene	50	60		1	119	70-126	12/22/2009 1902
Ethylbenzene	50	60		1	120	59-128	12/22/2009 1902
2-Hexanone	100	120		1	116	54-137	12/22/2009 1902
Isopropylbenzene	50	64		1	128	50-136	12/22/2009 1902
Methyl acetate	50	60		1	121	59-137	12/22/2009 1902
Methyl tertiary butyl ether (MTBE)	50	57		1	114	72-122	12/22/2009 1902
4-Methyl-2-pentanone	100	110		1	111	60-134	12/22/2009 1902
Methylcyclohexane	50	65		1	130	41-144	12/22/2009 1902
Methylene chloride	50	54		1	109	77-129	12/22/2009 1902
Styrene	50	62		1	124	54-136	12/22/2009 1902
1,1,2,2-Tetrachloroethane	50	58		1	116	69-132	12/22/2009 1902
Tetrachloroethene	50	62		1	125	70-130	12/22/2009 1902
Toluene	50	60		1	120	61-129	12/22/2009 1902
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	56		1	112	49-136	12/22/2009 1902
1,2,4-Trichlorobenzene	50	64		1	129	34-145	12/22/2009 1902
1,1,2-Trichloroethane	50	57		1	113	55-128	12/22/2009 1902
1,1,1-Trichloroethane	50	57		1	115	63-128	12/22/2009 1902

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24175-002
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	59		1	118	62-126	12/22/2009 1902
Trichlorofluoromethane	50	57		1	113	45-138	12/22/2009 1902
Vinyl chloride	50	75	N	1	150	42-132	12/22/2009 1902
Xylenes (total)	100	120		1	123	58-128	12/22/2009 1902

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	47-138
1,2-Dichloroethane-d4		80	53-142
Toluene-d8		94	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24175-003
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120	+	1	116	27	42-149	20	12/22/2009 1926
Benzene	50	54		1	107	6.9	69-123	20	12/22/2009 1926
Bromodichloromethane	50	55		1	109	5.8	69-121	20	12/22/2009 1926
Bromoform	50	54		1	107	6.8	61-119	20	12/22/2009 1926
Bromomethane (Methyl bromide)	50	53		1	106	5.5	35-144	20	12/22/2009 1926
2-Butanone (MEK)	100	110		1	112	18	57-148	20	12/22/2009 1926
Carbon disulfide	50	58		1	116	7.4	58-122	20	12/22/2009 1926
Carbon tetrachloride	50	54		1	109	7.3	58-136	20	12/22/2009 1926
Chlorobenzene	50	55		1	109	4.8	59-129	20	12/22/2009 1926
Chloroethane	50	60	+	1	120	28	50-132	20	12/22/2009 1926
Chloroform	50	53		1	107	6.1	71-125	20	12/22/2009 1926
Chloromethane (Methyl chloride)	50	69	N	1	138	14	34-134	20	12/22/2009 1926
Cyclohexane	50	51		1	101	7.9	53-139	20	12/22/2009 1926
1,2-Dibromo-3-chloropropane (DBCP)	50	50		1	101	12	55-125	20	12/22/2009 1926
Dibromochloromethane	50	56		1	112	4.1	66-119	20	12/22/2009 1926
1,2-Dibromoethane (EDB)	50	55		1	109	4.0	74-124	20	12/22/2009 1926
1,4-Dichlorobenzene	50	55		1	110	5.9	52-133	20	12/22/2009 1926
1,3-Dichlorobenzene	50	56		1	112	5.7	51-134	20	12/22/2009 1926
1,2-Dichlorobenzene	50	52		1	103	7.8	57-131	20	12/22/2009 1926
Dichlorodifluoromethane	50	67		1	134	11	10-157	20	12/22/2009 1926
1,2-Dichloroethane	50	52		1	105	5.6	67-129	20	12/22/2009 1926
1,1-Dichloroethane	50	54		1	108	5.9	71-127	20	12/22/2009 1926
trans-1,2-Dichloroethene	50	55		1	109	6.4	68-131	20	12/22/2009 1926
cis-1,2-Dichloroethene	50	54		1	109	5.5	70-122	20	12/22/2009 1926
1,1-Dichloroethene	50	55		1	110	8.2	69-138	20	12/22/2009 1926
1,2-Dichloropropane	50	54		1	107	6.9	72-124	20	12/22/2009 1926
trans-1,3-Dichloropropene	50	57		1	114	3.1	70-124	20	12/22/2009 1926
cis-1,3-Dichloropropene	50	56		1	111	6.9	70-126	20	12/22/2009 1926
Ethylbenzene	50	58		1	115	4.2	59-128	20	12/22/2009 1926
2-Hexanone	100	100		1	102	12	54-137	20	12/22/2009 1926
Isopropylbenzene	50	60		1	119	7.2	50-136	20	12/22/2009 1926
Methyl acetate	50	56		1	112	7.0	59-137	20	12/22/2009 1926
Methyl tertiary butyl ether (MTBE)	50	53		1	106	6.8	72-122	20	12/22/2009 1926
4-Methyl-2-pentanone	100	100		1	100	10	60-134	20	12/22/2009 1926
Methylcyclohexane	50	59		1	118	9.4	41-144	20	12/22/2009 1926
Methylene chloride	50	51		1	103	5.6	77-129	20	12/22/2009 1926
Styrene	50	59		1	118	4.7	54-136	20	12/22/2009 1926
1,1,2,2-Tetrachloroethane	50	54		1	107	8.0	69-132	20	12/22/2009 1926
Tetrachloroethene	50	59		1	118	5.1	70-130	20	12/22/2009 1926
Toluene	50	56		1	111	7.4	61-129	20	12/22/2009 1926
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	51		1	102	9.2	49-136	20	12/22/2009 1926
1,2,4-Trichlorobenzene	50	60		1	119	7.6	34-145	20	12/22/2009 1926
1,1,2-Trichloroethane	50	55		1	109	3.8	55-128	20	12/22/2009 1926
1,1,1-Trichloroethane	50	54		1	107	6.6	63-128	20	12/22/2009 1926

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24175-003
Batch: 24175
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	55		1	109	7.9	62-126	20	12/22/2009 1926
Trichlorofluoromethane	50	61		1	122	6.9	45-138	20	12/22/2009 1926
Vinyl chloride	50	64		1	128	15	42-132	20	12/22/2009 1926
Xylenes (total)	100	120		1	117	5.2	58-128	20	12/22/2009 1926

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	47-138
1,2-Dichloroethane-d4		76	53-142
Toluene-d8		91	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 101474

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bostian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: x	Waybill No.	Page 1 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAF3, H17B, DG0F1	P.O. No.		Lot No.: KL09046

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Ultrpure	H2SO4	HNO3	HCl	NaOH	Soda Lime	8260 VOCs	Remarks / Cooler I.D.
H17-AF01(120709)-(21-22)	12-7-09	1435	G		X							X	5	
H17-AF01(120709)-(31-32)	12-7-09	1615	G		X							X	5	
H17-AF01(120709)-(37-38)	12-7-09	1620	G		X							X	5	
H17-AF62(120809)-(21-22)	12-8-09	0945	G		X							X	5	
H17-AF62(120809)-(26-27)	12-8-09	0950	G		X							X	5	
H17-AF62(120809)-(36-37)	12-8-09	0955	G		X							X	5	
H17-AF53(120809)-(25-26)	12-8-09	1145	G		X							X	5	
H17-AF53(120809)-(35-36)	12-8-09	1150	G		X							X	5	
H17-AF53(120809)-(42-43)	12-8-09	1155	G		X							X	5	
H17-AF15(120809)-(21-22)	12-8-09	1540	G		X							X	5	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by:	12-8-09	1800	1. Received by:		
2. Relinquished by:			2. Received by:		
3. Relinquished by: FEDEX 12	9-09	0820	3. Laboratory received by:	12-9-09	0820

Comments:

LAB USE ONLY: Received on Ice (Circle) Yes No Ice Pack — Receipt Temp. 4.7 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY *Chain of Custody Record*

Number 101473

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282/scott.bostian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X	Waybill No.	Page 2 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAFS.H17B. DGOF1	P.O. No.		Lot No. KL09046

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	SCDS Kit	8260 VOCs	Remarks / Cooler I.D.
H17-AF15(120809)-(29-30)	12-8-09	1545	G		X							X	5	
H17-AF15(120809)-(37-38)	12-8-09	1550	G		X							X	5	
H17-AF15(120809)-(44-45)	12-8-09	1555	G		X							X	5	

JDF 12-8-2009

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	12-8-09	1800	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by FEDEX	12-9-09	0830	3. Laboratory received by	12-9-09	0830

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 4.7 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Araadis. Cooler Inspected by/date: DMP/12/9/09 Lot #: KL 09046

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 4-17 °C / °C / °C / °C
/ °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: HAA-17

Project Number: GP08HAFS.H17B.DG0F1

Lot Number: KL13004

Date Completed: 01/05/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

KL13004

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KL13004

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

Dilutions greater than 5X impact the surrogate recoveries, thus negating their usefulness concerning quality control. The sample results are reported and no corrective action is required.
Sample -006 and -010 were analyzed outside the holding time due to instrument issues.

The LCSD recovery for Carbon disulfide and Tetrachloroethene were outside method control limits in batch 23960. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for Vinyl chloride exceeded method control limits in batch 23963; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCSD recovery for Chloromethane (Methyl chloride) and Vinyl chloride were outside method control limits in batch 24314. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The LCS/LCSD recovery for four analytes exceeded method control limits in batch 24685; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were non-detect, therefore the results were reported and no corrective action was required.

Sample Summary

ARCADIS U.S., Inc.

Lot Number: KL13004

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-AF61(120909)-(22-23)	Solid	12/09/2009 1015	12/12/2009
002	H17-AF61 (120909)-(36-37)	Solid	12/09/2009 1115	12/12/2009
003	H17-AF61 (120909)-(41-42)	Solid	12/09/2009 1120	12/12/2009
004	H17-AF61 (120909)-(48-49)	Solid	12/09/2009 1125	12/12/2009
005	H17-AF101 (121009)-(24-25)	Solid	12/10/2009 1020	12/12/2009
006	H17-AF101 (121009)-(34-35)	Solid	12/10/2009 1025	12/12/2009
007	H17-PF2 (121009)-(34-35)	Solid	12/10/2009 1510	12/12/2009
008	H17-PF2 (121009)-(44-45)	Solid	12/10/2009 1515	12/12/2009
009	H17-PF3 (121109)-(2-3)	Solid	12/11/2009 0810	12/12/2009
010	H17-PF3 (121109)-(6-7)	Solid	12/11/2009 0835	12/12/2009
011	H17-PF1 (121109)-(6-7)	Solid	12/11/2009 1015	12/12/2009
012	H17-PF1 (121109)-(34-35)	Solid	12/11/2009 1030	12/12/2009
013	H17-PF1 (121109)-(44-45)	Solid	12/11/2009 1035	12/12/2009

(13 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: KL13004

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-AF61(120909)-(22-	Solid	Acetone	8260B	38		ug/kg	5
001	H17-AF61(120909)-(22-	Solid	Carbon disulfide	8260B	6.3		ug/kg	5
001	H17-AF61(120909)-(22-	Solid	Carbon tetrachloride	8260B	4.1		ug/kg	5
001	H17-AF61(120909)-(22-	Solid	cis-1,2-Dichloroethene	8260B	0.54	J	ug/kg	5
001	H17-AF61(120909)-(22-	Solid	Trichloroethene	8260B	530		ug/kg	6
002	H17-AF61 (120909)-(36-	Solid	Trichloroethene	8260B	750		ug/kg	8
003	H17-AF61 (120909)-(41-	Solid	Carbon disulfide	8260B	1.5	J	ug/kg	9
003	H17-AF61 (120909)-(41-	Solid	Trichloroethene	8260B	2.1		ug/kg	10
004	H17-AF61 (120909)-(48-	Solid	Carbon disulfide	8260B	4.8	J	ug/kg	11
005	H17-AF101 (121009)-(24-	Solid	Acetone	8260B	20		ug/kg	13
005	H17-AF101 (121009)-(24-	Solid	Carbon disulfide	8260B	5.8		ug/kg	13
005	H17-AF101 (121009)-(24-	Solid	1,1-Dichloroethene	8260B	4.3		ug/kg	13
005	H17-AF101 (121009)-(24-	Solid	cis-1,2-Dichloroethene	8260B	94		ug/kg	13
005	H17-AF101 (121009)-(24-	Solid	Trichloroethene	8260B	940		ug/kg	14
006	H17-AF101 (121009)-(34-	Solid	Trichloroethene	8260B	810	H	ug/kg	16
007	H17-PF2 (121009)-(34-35)	Solid	Carbon disulfide	8260B	2.1	J	ug/kg	17
007	H17-PF2 (121009)-(34-35)	Solid	cis-1,2-Dichloroethene	8260B	0.43	J	ug/kg	17
007	H17-PF2 (121009)-(34-35)	Solid	Trichloroethene	8260B	9.2		ug/kg	18
008	H17-PF2 (121009)-(44-45)	Solid	Carbon disulfide	8260B	6.1	J	ug/kg	19
008	H17-PF2 (121009)-(44-45)	Solid	cis-1,2-Dichloroethene	8260B	3.8	J	ug/kg	19
008	H17-PF2 (121009)-(44-45)	Solid	Trichloroethene	8260B	95		ug/kg	20
009	H17-PF3 (121109)-(2-3)	Solid	Ethylbenzene	8260B	4300		ug/kg	21
009	H17-PF3 (121109)-(2-3)	Solid	Isopropylbenzene	8260B	3700		ug/kg	21
009	H17-PF3 (121109)-(2-3)	Solid	4-Methyl-2-pentanone	8260B	310	J	ug/kg	21
009	H17-PF3 (121109)-(2-3)	Solid	Methylcyclohexane	8260B	11000		ug/kg	21
009	H17-PF3 (121109)-(2-3)	Solid	Toluene	8260B	2600		ug/kg	21
009	H17-PF3 (121109)-(2-3)	Solid	Xylenes (total)	8260B	55000		ug/kg	22
010	H17-PF3 (121109)-(6-7)	Solid	Ethylbenzene	8260B	700	H	ug/kg	23
010	H17-PF3 (121109)-(6-7)	Solid	Isopropylbenzene	8260B	620	H	ug/kg	23
010	H17-PF3 (121109)-(6-7)	Solid	Methylcyclohexane	8260B	6000	H	ug/kg	23
010	H17-PF3 (121109)-(6-7)	Solid	Toluene	8260B	300	H	ug/kg	23
010	H17-PF3 (121109)-(6-7)	Solid	Xylenes (total)	8260B	5200	H	ug/kg	24
011	H17-PF1 (121109)-(6-7)	Solid	Acetone	8260B	7.9	J	ug/kg	25
012	H17-PF1 (121109)-(34-35)	Solid	Acetone	8260B	9.3	J	ug/kg	27
013	H17-PF1 (121109)-(44-45)	Solid	Acetone	8260B	24		ug/kg	29
013	H17-PF1 (121109)-(44-45)	Solid	Carbon disulfide	8260B	1.2	J	ug/kg	29
013	H17-PF1 (121109)-(44-45)	Solid	cis-1,2-Dichloroethene	8260B	1.0	J	ug/kg	29
013	H17-PF1 (121109)-(44-45)	Solid	Trichloroethene	8260B	15		ug/kg	30

(38 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-001
Description: H17-AF61(120909)-(22-23)
Matrix: Solid
Date Sampled: 12/09/2009 1015
% Solids: 78.1 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1438	DLB		23960	15.08
2	5035	8260B	50	12/23/2009 2017	RRH		24321	9.61

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	38		8.5	2.8	ug/kg	1
Benzene	71-43-2	8260B	ND		2.1	0.47	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.1	0.72	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.1	0.30	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.1	0.76	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.2	1.0	ug/kg	1
Carbon disulfide	75-15-0	8260B	6.3		2.1	0.55	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	4.1		2.1	0.76	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.1	0.72	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.1	0.55	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.1	0.35	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.1	0.42	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.1	0.29	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.1	0.64	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.1	0.72	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.1	0.36	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.1	0.72	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.1	0.72	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.1	0.72	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.1	0.68	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.1	0.31	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.1	0.42	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.1	0.72	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.54	J	2.1	0.32	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.1	0.64	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.1	0.39	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.1	0.29	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.1	0.35	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.1	0.72	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.2	0.55	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.1	0.34	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.1	0.28	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.1	0.17	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.2	0.64	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.1	0.26	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.1	1.1	ug/kg	1
Styrene	100-42-5	8260B	ND		2.1	0.47	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.1	0.20	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.1	0.98	ug/kg	1
Toluene	108-88-3	8260B	ND		2.1	0.72	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.1	0.89	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.1	0.72	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.1	0.36	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-001
Description: H17-AF61(120909)-(22-23)
Matrix: Solid
Date Sampled: 12/09/2009 1015
% Solids: 78.1 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1438	DLB		23960	15.08
2	5035	8260B	50	12/23/2009 2017	RRH		24321	9.61

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.1	0.34	ug/kg	1
Trichloroethene	79-01-6	8260B	530		170	63	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		2.1	0.64	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.1	0.37	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.1	1.2	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	53-142	N	51	53-142
Bromofluorobenzene		117	47-138		50	47-138
Toluene-d8		118	68-124	N	52	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-002
Description: H17-AF61 (120909)-(36-37)
Matrix: Solid
Date Sampled: 12/09/2009 1115
% Solids: 73.1 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	12/23/2009 2041	RRH		24321	9.36

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		730	240	ug/kg	1
Benzene	71-43-2	8260B	ND		180	40	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		180	62	ug/kg	1
Bromoform	75-25-2	8260B	ND		180	26	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		180	66	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		370	88	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		180	48	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		180	66	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		180	62	ug/kg	1
Chloroethane	75-00-3	8260B	ND		180	48	ug/kg	1
Chloroform	67-66-3	8260B	ND		180	30	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		180	37	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		180	25	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		180	55	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		180	62	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		180	31	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		180	62	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		180	62	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		180	62	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		180	58	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		180	27	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		180	37	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		180	62	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		180	28	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		180	55	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		180	33	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		180	25	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		180	30	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		180	62	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		370	48	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		180	29	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		180	24	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		180	15	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		370	55	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		180	22	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		180	95	ug/kg	1
Styrene	100-42-5	8260B	ND		180	40	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		180	17	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		180	84	ug/kg	1
Toluene	108-88-3	8260B	ND		180	62	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		180	77	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		180	62	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		180	31	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		180	29	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-002
Description: H17-AF61 (120909)-(36-37)
Matrix: Solid
Date Sampled: 12/09/2009 1115
% Solids: 73.1 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	12/23/2009 2041	RRH		24321	9.36

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	750		180	69	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		180	55	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		180	31	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		180	110	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	53-142
Bromofluorobenzene		115	47-138
Toluene-d8		94	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-003
Description: H17-AF61 (120909)-(41-42)
Matrix: Solid
Date Sampled: 12/09/2009 1120
% Solids: 87.3 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1227	DLB		23960	14.20

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		8.1	2.7	ug/kg	1
Benzene	71-43-2	8260B	ND		2.0	0.44	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.0	0.69	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.0	0.28	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.0	0.73	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.0	0.97	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.5	J	2.0	0.52	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.0	0.73	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.0	0.69	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.0	0.52	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.0	0.33	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.0	0.40	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.0	0.27	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.0	0.60	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.0	0.69	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.0	0.34	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.0	0.69	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.0	0.69	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.0	0.69	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.0	0.65	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.0	0.29	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.0	0.40	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.0	0.69	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.0	0.31	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.0	0.60	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.0	0.37	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.0	0.27	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.0	0.33	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.0	0.69	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.0	0.52	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.0	0.32	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.0	0.27	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.0	0.16	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.0	0.60	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.0	0.25	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.0	1.0	ug/kg	1
Styrene	100-42-5	8260B	ND		2.0	0.44	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.0	0.19	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.0	0.93	ug/kg	1
Toluene	108-88-3	8260B	ND		2.0	0.69	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.0	0.85	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.0	0.69	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.0	0.34	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.0	0.32	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-003
Description: H17-AF61 (120909)-(41-42)
Matrix: Solid
Date Sampled: 12/09/2009 1120
% Solids: 87.3 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1227	DLB		23960	14.20

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	2.1		2.0	0.77	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.0	0.60	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.0	0.35	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.0	1.2	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	53-142
Bromofluorobenzene		105	47-138
Toluene-d8		106	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-004
Description: H17-AF61 (120909)-(48-49)
Matrix: Solid
Date Sampled: 12/09/2009 1125
% Solids: 65.2 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	12/23/2009 1645	RRH		24314	5.62

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		27	9.1	ug/kg	2
Benzene	71-43-2	8260B	ND		6.8	1.5	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		6.8	2.3	ug/kg	2
Bromoform	75-25-2	8260B	ND		6.8	0.96	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		6.8	2.5	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		14	3.3	ug/kg	2
Carbon disulfide	75-15-0	8260B	4.8	J	6.8	1.8	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		6.8	2.5	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		6.8	2.3	ug/kg	2
Chloroethane	75-00-3	8260B	ND		6.8	1.8	ug/kg	2
Chloroform	67-66-3	8260B	ND		6.8	1.1	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		6.8	1.4	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		6.8	0.92	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		6.8	2.0	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		6.8	2.3	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		6.8	1.2	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		6.8	2.3	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		6.8	2.3	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		6.8	2.3	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		6.8	2.2	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		6.8	1.0	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		6.8	1.4	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		6.8	2.3	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND		6.8	1.0	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		6.8	2.0	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		6.8	1.2	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		6.8	0.93	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		6.8	1.1	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		6.8	2.3	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		14	1.8	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		6.8	1.1	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		6.8	0.91	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		6.8	0.55	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		14	2.0	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		6.8	0.83	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		6.8	3.5	ug/kg	2
Styrene	100-42-5	8260B	ND		6.8	1.5	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		6.8	0.64	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		6.8	3.1	ug/kg	2
Toluene	108-88-3	8260B	ND		6.8	2.3	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		6.8	2.9	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		6.8	2.3	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		6.8	1.2	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		6.8	1.1	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-004
Description: H17-AF61 (120909)-(48-49)
Matrix: Solid
Date Sampled: 12/09/2009 1125
% Solids: 65.2 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	12/23/2009 1645	RRH		24314	5.62

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		6.8	2.6	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		6.8	2.0	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		6.8	1.2	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		6.8	4.0	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		80	53-142
Bromofluorobenzene		89	47-138
Toluene-d8		87	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-005
Description: H17-AF101 (121009)-(24-25)
Matrix: Solid
Date Sampled: 12/10/2009 1020
% Solids: 80.7 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1319	DLB		23960	10.52
2	5035	8260B	50	12/23/2009 2104	RRH		24321	10.20

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	20		12	3.9	ug/kg	1
Benzene	71-43-2	8260B	ND		2.9	0.65	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.9	1.0	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.9	0.41	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.9	1.1	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.9	1.4	ug/kg	1
Carbon disulfide	75-15-0	8260B	5.8		2.9	0.77	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.9	1.1	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.9	1.0	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.9	0.77	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.9	0.49	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.9	0.59	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.9	0.40	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.9	0.88	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.9	1.0	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.9	0.50	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.9	1.0	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.9	1.0	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.9	1.0	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.9	0.94	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.9	0.43	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.9	0.59	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	4.3		2.9	1.0	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	94		2.9	0.45	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.9	0.88	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.9	0.54	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.9	0.40	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.9	0.48	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.9	1.0	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.9	0.77	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.9	0.47	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.9	0.39	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.9	0.24	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.9	0.88	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.9	0.36	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.9	1.5	ug/kg	1
Styrene	100-42-5	8260B	ND		2.9	0.65	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.9	0.28	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.9	1.4	ug/kg	1
Toluene	108-88-3	8260B	ND		2.9	1.0	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.9	1.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.9	1.0	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.9	0.50	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-005
Description: H17-AF101 (121009)-(24-25)
Matrix: Solid
Date Sampled: 12/10/2009 1020
% Solids: 80.7 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1319	DLB		23960	10.52
2	5035	8260B	50	12/23/2009 2104	RRH		24321	10.20

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.9	0.47	ug/kg	1
Trichloroethene	79-01-6	8260B	940		150	58	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		2.9	0.88	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.9	0.51	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.9	1.7	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	53-142		70	53-142
Bromofluorobenzene		94	47-138		76	47-138
Toluene-d8		108	68-124	N	66	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-006
Description: H17-AF101 (121009)-(34-35)
Matrix: Solid
Date Sampled: 12/10/2009 1025
% Solids: 78.7 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	01/02/2010 0057	RRH		24685	5.06

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	1300	420	ug/kg	1
Benzene	71-43-2	8260B	ND	H	310	69	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND	H	310	110	ug/kg	1
Bromoform	75-25-2	8260B	ND	H	310	44	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	310	110	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND	H	630	150	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND	H	310	82	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND	H	310	110	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND	H	310	110	ug/kg	1
Chloroethane	75-00-3	8260B	ND	H	310	82	ug/kg	1
Chloroform	67-66-3	8260B	ND	H	310	52	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	310	63	ug/kg	1
Cyclohexane	110-82-7	8260B	ND	H	310	42	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	310	94	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND	H	310	110	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	310	53	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	310	110	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	310	110	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	310	110	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND	H	310	100	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND	H	310	46	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND	H	310	63	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND	H	310	110	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	310	48	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	310	94	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND	H	310	57	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	310	43	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	310	51	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND	H	310	110	ug/kg	1
2-Hexanone	591-78-6	8260B	ND	H	630	82	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND	H	310	50	ug/kg	1
Methyl acetate	79-20-9	8260B	ND	H	310	42	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	310	25	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	630	94	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND	H	310	38	ug/kg	1
Methylene chloride	75-09-2	8260B	ND	H	310	160	ug/kg	1
Styrene	100-42-5	8260B	ND	H	310	69	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	310	30	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND	H	310	140	ug/kg	1
Toluene	108-88-3	8260B	ND	H	310	110	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	310	130	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	310	110	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	310	53	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	310	50	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-006
Description: H17-AF101 (121009)-(34-35)
Matrix: Solid
Date Sampled: 12/10/2009 1025
% Solids: 78.7 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	01/02/2010 0057	RRH		24685	5.06

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	810	H	310	120	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND	H	310	94	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND	H	310	54	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND	H	310	180	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	H	64	53-142
Bromofluorobenzene	H	47	47-138
Toluene-d8	HN	56	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-007
Description: H17-PF2 (121009)-(34-35)
Matrix: Solid
Date Sampled: 12/10/2009 1510
% Solids: 81.6 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1342	DLB		23960	13.22

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		9.3	3.1	ug/kg	1
Benzene	71-43-2	8260B	ND		2.3	0.51	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.3	0.79	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.3	0.32	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.3	0.83	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.6	1.1	ug/kg	1
Carbon disulfide	75-15-0	8260B	2.1	J	2.3	0.60	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.3	0.83	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.3	0.79	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.3	0.60	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.3	0.38	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.3	0.46	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.3	0.31	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.3	0.70	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.3	0.79	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.3	0.39	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.3	0.79	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.3	0.79	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.3	0.79	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.3	0.74	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.3	0.34	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.3	0.46	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.3	0.79	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.43	J	2.3	0.35	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.3	0.70	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.3	0.42	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.3	0.32	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.3	0.38	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.3	0.79	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.6	0.60	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.3	0.37	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.3	0.31	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.3	0.19	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.6	0.70	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.3	0.28	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.3	1.2	ug/kg	1
Styrene	100-42-5	8260B	ND		2.3	0.51	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.3	0.22	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.3	1.1	ug/kg	1
Toluene	108-88-3	8260B	ND		2.3	0.79	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.3	0.97	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.3	0.79	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.3	0.39	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.3	0.37	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-007
Description: H17-PF2 (121009)-(34-35)
Matrix: Solid
Date Sampled: 12/10/2009 1510
% Solids: 81.6 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/18/2009 1342	DLB		23960	13.22

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	9.2		2.3	0.88	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.3	0.70	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.3	0.40	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.3	1.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	53-142
Bromofluorobenzene		103	47-138
Toluene-d8		109	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-008
Description: H17-PF2 (121009)-(44-45)
Matrix: Solid
Date Sampled: 12/10/2009 1515
% Solids: 70.0 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	12/23/2009 1708	RRH		24314	4.13

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		35	12	ug/kg	2
Benzene	71-43-2	8260B	ND		8.6	1.9	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND		8.6	2.9	ug/kg	2
Bromoform	75-25-2	8260B	ND		8.6	1.2	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		8.6	3.1	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND		17	4.2	ug/kg	2
Carbon disulfide	75-15-0	8260B	6.1	J	8.6	2.2	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND		8.6	3.1	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND		8.6	2.9	ug/kg	2
Chloroethane	75-00-3	8260B	ND		8.6	2.2	ug/kg	2
Chloroform	67-66-3	8260B	ND		8.6	1.4	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		8.6	1.7	ug/kg	2
Cyclohexane	110-82-7	8260B	ND		8.6	1.2	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		8.6	2.6	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND		8.6	2.9	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		8.6	1.5	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		8.6	2.9	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		8.6	2.9	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		8.6	2.9	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND		8.6	2.8	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND		8.6	1.3	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND		8.6	1.7	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND		8.6	2.9	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	3.8	J	8.6	1.3	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		8.6	2.6	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND		8.6	1.6	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		8.6	1.2	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		8.6	1.4	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND		8.6	2.9	ug/kg	2
2-Hexanone	591-78-6	8260B	ND		17	2.2	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND		8.6	1.4	ug/kg	2
Methyl acetate	79-20-9	8260B	ND		8.6	1.2	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		8.6	0.69	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		17	2.6	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND		8.6	1.1	ug/kg	2
Methylene chloride	75-09-2	8260B	ND		8.6	4.5	ug/kg	2
Styrene	100-42-5	8260B	ND		8.6	1.9	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		8.6	0.81	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND		8.6	4.0	ug/kg	2
Toluene	108-88-3	8260B	ND		8.6	2.9	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		8.6	3.6	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		8.6	2.9	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		8.6	1.5	ug/kg	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		8.6	1.4	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-008
Description: H17-PF2 (121009)-(44-45)
Matrix: Solid
Date Sampled: 12/10/2009 1515
% Solids: 70.0 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
2	5035	8260B	1	12/23/2009 1708	RRH		24314	4.13

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	95		8.6	3.3	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND		8.6	2.6	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND		8.6	1.5	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND		8.6	5.0	ug/kg	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		76	53-142
Bromofluorobenzene		86	47-138
Toluene-d8		86	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-009
Description: H17-PF3 (121109)-(2-3)
Matrix: Solid
Date Sampled: 12/11/2009 0810
% Solids: 82.3 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	200	12/23/2009 2127	RRH		24321	13.03

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		1900	620	ug/kg	1
Benzene	71-43-2	8260B	ND		470	100	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		470	160	ug/kg	1
Bromoform	75-25-2	8260B	ND		470	65	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		470	170	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		930	220	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		470	120	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		470	170	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		470	160	ug/kg	1
Chloroethane	75-00-3	8260B	ND		470	120	ug/kg	1
Chloroform	67-66-3	8260B	ND		470	77	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		470	93	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		470	63	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		470	140	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		470	160	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		470	79	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		470	160	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		470	160	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		470	160	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		470	150	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		470	68	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		470	93	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		470	160	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		470	71	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		470	140	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		470	85	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		470	63	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		470	76	ug/kg	1
Ethylbenzene	100-41-4	8260B	4300		470	160	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		930	120	ug/kg	1
Isopropylbenzene	98-82-8	8260B	3700		470	75	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		470	62	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		470	37	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	310	J	930	140	ug/kg	1
Methylcyclohexane	108-87-2	8260B	11000		470	57	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		470	240	ug/kg	1
Styrene	100-42-5	8260B	ND		470	100	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		470	44	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		470	210	ug/kg	1
Toluene	108-88-3	8260B	2600		470	160	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		470	200	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		470	160	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		470	79	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		470	74	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-009
Description: H17-PF3 (121109)-(2-3)
Matrix: Solid
Date Sampled: 12/11/2009 0810
% Solids: 82.3 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	200	12/23/2009 2127	RRH		24321	13.03

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		470	180	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		470	140	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		470	80	ug/kg	1
Xylenes (total)	1330-20-7	8260B	55000		470	270	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		64	53-142
Bromofluorobenzene		74	47-138
Toluene-d8		87	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Description: H17-PF3 (121109)-(6-7)
Date Sampled: 12/11/2009 0835
Date Received: 12/12/2009

Laboratory ID: KL13004-010
Matrix: Solid
% Solids: 75.0 12/14/2009 1724

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	01/01/2010 2348	RRH		24685	12.43

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	540	180	ug/kg	1
Benzene	71-43-2	8260B	ND	H	130	30	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND	H	130	46	ug/kg	1
Bromoform	75-25-2	8260B	ND	H	130	19	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	130	48	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND	H	270	64	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND	H	130	35	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND	H	130	48	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND	H	130	46	ug/kg	1
Chloroethane	75-00-3	8260B	ND	H	130	35	ug/kg	1
Chloroform	67-66-3	8260B	ND	H	130	22	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	130	27	ug/kg	1
Cyclohexane	110-82-7	8260B	ND	H	130	18	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	130	40	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND	H	130	46	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	130	23	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	130	46	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	130	46	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	130	46	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND	H	130	43	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND	H	130	20	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND	H	130	27	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND	H	130	46	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	130	20	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	130	40	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND	H	130	24	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	130	18	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	130	22	ug/kg	1
Ethylbenzene	100-41-4	8260B	700	H	130	46	ug/kg	1
2-Hexanone	591-78-6	8260B	ND	H	270	35	ug/kg	1
Isopropylbenzene	98-82-8	8260B	620	H	130	21	ug/kg	1
Methyl acetate	79-20-9	8260B	ND	H	130	18	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	130	11	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	270	40	ug/kg	1
Methylcyclohexane	108-87-2	8260B	6000	H	130	16	ug/kg	1
Methylene chloride	75-09-2	8260B	ND	H	130	70	ug/kg	1
Styrene	100-42-5	8260B	ND	H	130	30	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	130	13	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND	H	130	62	ug/kg	1
Toluene	108-88-3	8260B	300	H	130	46	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	130	56	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	130	46	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	130	23	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	130	21	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-010
Description: H17-PF3 (121109)-(6-7)
Matrix: Solid
Date Sampled: 12/11/2009 0835
% Solids: 75.0 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	50	01/01/2010 2348	RRH		24685	12.43

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND	H	130	51	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND	H	130	40	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND	H	130	23	ug/kg	1
Xylenes (total)	1330-20-7	8260B	5200	H	130	78	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4	H	59	53-142
Bromofluorobenzene	HN	35	47-138
Toluene-d8	HN	55	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-011
Description: H17-PF1 (121109)-(6-7)
Matrix: Solid
Date Sampled: 12/11/2009 1015
% Solids: 71.9 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1847	DLB		23963	8.25

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	7.9	J	17	5.6	ug/kg	1
Benzene	71-43-2	8260B	ND		4.2	0.93	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		4.2	1.4	ug/kg	1
Bromoform	75-25-2	8260B	ND		4.2	0.59	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		4.2	1.5	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		8.4	2.0	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		4.2	1.1	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		4.2	1.5	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		4.2	1.4	ug/kg	1
Chloroethane	75-00-3	8260B	ND		4.2	1.1	ug/kg	1
Chloroform	67-66-3	8260B	ND		4.2	0.70	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		4.2	0.84	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		4.2	0.57	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		4.2	1.3	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		4.2	1.4	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		4.2	0.72	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		4.2	1.4	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		4.2	1.4	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		4.2	1.4	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		4.2	1.3	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		4.2	0.62	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		4.2	0.84	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		4.2	1.4	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		4.2	0.64	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		4.2	1.3	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		4.2	0.77	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		4.2	0.57	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		4.2	0.69	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.2	1.4	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		8.4	1.1	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		4.2	0.67	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		4.2	0.56	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		4.2	0.34	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		8.4	1.3	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		4.2	0.51	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		4.2	2.2	ug/kg	1
Styrene	100-42-5	8260B	ND		4.2	0.93	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		4.2	0.40	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		4.2	1.9	ug/kg	1
Toluene	108-88-3	8260B	ND		4.2	1.4	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		4.2	1.8	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		4.2	1.4	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		4.2	0.72	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		4.2	0.67	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-011
Description: H17-PF1 (121109)-(6-7)
Matrix: Solid
Date Sampled: 12/11/2009 1015
% Solids: 71.9 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1847	DLB		23963	8.25

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		4.2	1.6	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		4.2	1.3	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		4.2	0.72	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		4.2	2.4	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		86	53-142
Bromofluorobenzene		109	47-138
Toluene-d8		117	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-012
Description: H17-PF1 (121109)-(34-35)
Matrix: Solid
Date Sampled: 12/11/2009 1030
% Solids: 80.8 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1910	DLB		23963	11.44

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	9.3	J	11	3.6	ug/kg	1
Benzene	71-43-2	8260B	ND		2.7	0.59	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.7	0.92	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.7	0.38	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.7	0.97	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.4	1.3	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		2.7	0.70	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.7	0.97	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.7	0.92	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.7	0.70	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.7	0.45	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.7	0.54	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.7	0.36	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.7	0.81	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.7	0.92	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.7	0.46	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.7	0.92	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.7	0.92	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.7	0.92	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.7	0.87	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.7	0.39	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.7	0.54	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.7	0.92	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.7	0.41	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.7	0.81	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.7	0.49	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.7	0.37	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.7	0.44	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.7	0.92	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.4	0.70	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.7	0.43	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.7	0.36	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.7	0.22	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.4	0.81	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.7	0.33	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.7	1.4	ug/kg	1
Styrene	100-42-5	8260B	ND		2.7	0.59	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.7	0.25	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.7	1.2	ug/kg	1
Toluene	108-88-3	8260B	ND		2.7	0.92	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.7	1.1	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.7	0.92	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.7	0.46	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.7	0.43	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-012
Description: H17-PF1 (121109)-(34-35)
Matrix: Solid
Date Sampled: 12/11/2009 1030
% Solids: 80.8 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1910	DLB		23963	11.44

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.7	1.0	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.7	0.81	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.7	0.47	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.7	1.6	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	53-142
Bromofluorobenzene		107	47-138
Toluene-d8		108	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-013
Description: H17-PF1 (121109)-(44-45)
Matrix: Solid
Date Sampled: 12/11/2009 1035
% Solids: 76.5 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/23/2009 1732	RRH		24314	8.28

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	24		16	5.3	ug/kg	1
Benzene	71-43-2	8260B	ND		3.9	0.87	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.9	1.3	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.9	0.55	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.9	1.4	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.9	1.9	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.2	J	3.9	1.0	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.9	1.4	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.9	1.3	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.9	1.0	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.9	0.66	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.9	0.79	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.9	0.53	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.9	1.2	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.9	1.3	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.9	0.67	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.9	1.3	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.9	1.3	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.9	1.3	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.9	1.3	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.9	0.58	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.9	0.79	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.9	1.3	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	1.0	J	3.9	0.60	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.9	1.2	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.9	0.72	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.9	0.54	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.9	0.65	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.9	1.3	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.9	1.0	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.9	0.63	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.9	0.53	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.9	0.32	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.9	1.2	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.9	0.48	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.9	2.1	ug/kg	1
Styrene	100-42-5	8260B	ND		3.9	0.87	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.9	0.37	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.9	1.8	ug/kg	1
Toluene	108-88-3	8260B	ND		3.9	1.3	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.9	1.7	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.9	1.3	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.9	0.67	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.9	0.62	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL13004-013
Description: H17-PF1 (121109)-(44-45)
Matrix: Solid
Date Sampled: 12/11/2009 1035
% Solids: 76.5 12/14/2009 1724
Date Received: 12/12/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/23/2009 1732	RRH		24314	8.28

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	15		3.9	1.5	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.9	1.2	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.9	0.68	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.9	2.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		82	53-142
Bromofluorobenzene		87	47-138
Toluene-d8		87	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23960-001
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/18/2009 1130
Benzene	ND		1	5.0	1.1	ug/kg	12/18/2009 1130
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
Bromoform	ND		1	5.0	0.70	ug/kg	12/18/2009 1130
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/18/2009 1130
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/18/2009 1130
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/18/2009 1130
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/18/2009 1130
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
Chloroethane	ND		1	5.0	1.3	ug/kg	12/18/2009 1130
Chloroform	ND		1	5.0	0.83	ug/kg	12/18/2009 1130
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/18/2009 1130
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/18/2009 1130
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/18/2009 1130
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/18/2009 1130
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/18/2009 1130
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/18/2009 1130
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/18/2009 1130
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/18/2009 1130
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/18/2009 1130
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/18/2009 1130
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/18/2009 1130
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/18/2009 1130
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
2-Hexanone	ND		1	10	1.3	ug/kg	12/18/2009 1130
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/18/2009 1130
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/18/2009 1130
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/18/2009 1130
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/18/2009 1130
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/18/2009 1130
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/18/2009 1130
Styrene	ND		1	5.0	1.1	ug/kg	12/18/2009 1130
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/18/2009 1130
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/18/2009 1130
Toluene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/18/2009 1130
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/18/2009 1130
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/18/2009 1130
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/18/2009 1130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23960-001
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/18/2009 1130
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/18/2009 1130
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/18/2009 1130
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/18/2009 1130

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	47-138
1,2-Dichloroethane-d4		95	53-142
Toluene-d8		115	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23960-002
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	90		1	90	42-149	12/18/2009 0956
Benzene	50	53		1	107	69-123	12/18/2009 0956
Bromodichloromethane	50	52		1	103	69-121	12/18/2009 0956
Bromoform	50	48		1	96	61-119	12/18/2009 0956
Bromomethane (Methyl bromide)	50	52		1	104	35-144	12/18/2009 0956
2-Butanone (MEK)	100	94		1	94	57-148	12/18/2009 0956
Carbon disulfide	50	58		1	116	58-122	12/18/2009 0956
Carbon tetrachloride	50	59		1	118	58-136	12/18/2009 0956
Chlorobenzene	50	54		1	107	59-129	12/18/2009 0956
Chloroethane	50	55		1	111	50-132	12/18/2009 0956
Chloroform	50	50		1	101	71-125	12/18/2009 0956
Chloromethane (Methyl chloride)	50	49		1	98	34-134	12/18/2009 0956
Cyclohexane	50	58		1	115	53-139	12/18/2009 0956
1,2-Dibromo-3-chloropropane (DBCP)	50	48		1	95	55-125	12/18/2009 0956
Dibromochloromethane	50	52		1	103	66-119	12/18/2009 0956
1,2-Dibromoethane (EDB)	50	49		1	98	74-124	12/18/2009 0956
1,4-Dichlorobenzene	50	53		1	105	52-133	12/18/2009 0956
1,3-Dichlorobenzene	50	54		1	109	51-134	12/18/2009 0956
1,2-Dichlorobenzene	50	52		1	104	57-131	12/18/2009 0956
Dichlorodifluoromethane	50	56		1	112	10-157	12/18/2009 0956
1,2-Dichloroethane	50	47		1	94	67-129	12/18/2009 0956
1,1-Dichloroethane	50	52		1	104	71-127	12/18/2009 0956
trans-1,2-Dichloroethene	50	55		1	110	68-131	12/18/2009 0956
cis-1,2-Dichloroethene	50	51		1	103	70-122	12/18/2009 0956
1,1-Dichloroethene	50	59		1	118	69-138	12/18/2009 0956
1,2-Dichloropropane	50	52		1	103	72-124	12/18/2009 0956
trans-1,3-Dichloropropene	50	50		1	101	70-124	12/18/2009 0956
cis-1,3-Dichloropropene	50	53		1	105	70-126	12/18/2009 0956
Ethylbenzene	50	56		1	112	59-128	12/18/2009 0956
2-Hexanone	100	95		1	95	54-137	12/18/2009 0956
Isopropylbenzene	50	58		1	117	50-136	12/18/2009 0956
Methyl acetate	50	45		1	90	59-137	12/18/2009 0956
Methyl tertiary butyl ether (MTBE)	50	49		1	98	72-122	12/18/2009 0956
4-Methyl-2-pentanone	100	91		1	91	60-134	12/18/2009 0956
Methylcyclohexane	50	61		1	121	41-144	12/18/2009 0956
Methylene chloride	50	50		1	100	77-129	12/18/2009 0956
Styrene	50	56		1	112	54-136	12/18/2009 0956
1,1,2,2-Tetrachloroethane	50	47		1	94	69-132	12/18/2009 0956
Tetrachloroethene	50	60		1	121	70-130	12/18/2009 0956
Toluene	50	56		1	111	61-129	12/18/2009 0956
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	56		1	113	49-136	12/18/2009 0956
1,2,4-Trichlorobenzene	50	58		1	117	34-145	12/18/2009 0956
1,1,2-Trichloroethane	50	49		1	97	55-128	12/18/2009 0956
1,1,1-Trichloroethane	50	56		1	112	63-128	12/18/2009 0956

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23960-002
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	56		1	112	62-126	12/18/2009 0956
Trichlorofluoromethane	50	61		1	121	45-138	12/18/2009 0956
Vinyl chloride	50	53		1	106	42-132	12/18/2009 0956
Xylenes (total)	100	110		1	112	58-128	12/18/2009 0956

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		121	47-138
1,2-Dichloroethane-d4		87	53-142
Toluene-d8		118	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23960-003
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	87		1	87	3.6	42-149	20	12/18/2009 1020
Benzene	50	59		1	118	9.6	69-123	20	12/18/2009 1020
Bromodichloromethane	50	57		1	113	9.5	69-121	20	12/18/2009 1020
Bromoform	50	52		1	104	8.1	61-119	20	12/18/2009 1020
Bromomethane (Methyl bromide)	50	56		1	113	8.5	35-144	20	12/18/2009 1020
2-Butanone (MEK)	100	97		1	97	3.0	57-148	20	12/18/2009 1020
Carbon disulfide	50	63	N	1	127	8.9	58-122	20	12/18/2009 1020
Carbon tetrachloride	50	66		1	133	12	58-136	20	12/18/2009 1020
Chlorobenzene	50	59		1	118	9.0	59-129	20	12/18/2009 1020
Chloroethane	50	59		1	119	6.8	50-132	20	12/18/2009 1020
Chloroform	50	55		1	110	9.0	71-125	20	12/18/2009 1020
Chloromethane (Methyl chloride)	50	47		1	94	4.0	34-134	20	12/18/2009 1020
Cyclohexane	50	65		1	130	12	53-139	20	12/18/2009 1020
1,2-Dibromo-3-chloropropane (DBCP)	50	52		1	104	8.6	55-125	20	12/18/2009 1020
Dibromochloromethane	50	56		1	113	8.8	66-119	20	12/18/2009 1020
1,2-Dibromoethane (EDB)	50	52		1	105	6.8	74-124	20	12/18/2009 1020
1,4-Dichlorobenzene	50	57		1	115	8.7	52-133	20	12/18/2009 1020
1,3-Dichlorobenzene	50	58		1	116	6.6	51-134	20	12/18/2009 1020
1,2-Dichlorobenzene	50	55		1	111	5.9	57-131	20	12/18/2009 1020
Dichlorodifluoromethane	50	62		1	125	11	10-157	20	12/18/2009 1020
1,2-Dichloroethane	50	51		1	103	8.9	67-129	20	12/18/2009 1020
1,1-Dichloroethane	50	57		1	114	9.0	71-127	20	12/18/2009 1020
trans-1,2-Dichloroethene	50	60		1	120	9.1	68-131	20	12/18/2009 1020
cis-1,2-Dichloroethene	50	56		1	113	9.3	70-122	20	12/18/2009 1020
1,1-Dichloroethene	50	65		1	130	10	69-138	20	12/18/2009 1020
1,2-Dichloropropane	50	56		1	112	8.5	72-124	20	12/18/2009 1020
trans-1,3-Dichloropropene	50	55		1	110	8.9	70-124	20	12/18/2009 1020
cis-1,3-Dichloropropene	50	57		1	113	7.1	70-126	20	12/18/2009 1020
Ethylbenzene	50	62		1	125	11	59-128	20	12/18/2009 1020
2-Hexanone	100	100		1	100	5.5	54-137	20	12/18/2009 1020
Isopropylbenzene	50	64		1	128	9.0	50-136	20	12/18/2009 1020
Methyl acetate	50	46		1	91	1.9	59-137	20	12/18/2009 1020
Methyl tertiary butyl ether (MTBE)	50	52		1	103	5.6	72-122	20	12/18/2009 1020
4-Methyl-2-pentanone	100	100		1	100	9.6	60-134	20	12/18/2009 1020
Methylcyclohexane	50	68		1	136	12	41-144	20	12/18/2009 1020
Methylene chloride	50	53		1	106	5.8	77-129	20	12/18/2009 1020
Styrene	50	62		1	124	9.7	54-136	20	12/18/2009 1020
1,1,2,2-Tetrachloroethane	50	50		1	99	6.1	69-132	20	12/18/2009 1020
Tetrachloroethene	50	68	N	1	136	12	70-130	20	12/18/2009 1020
Toluene	50	61		1	122	9.6	61-129	20	12/18/2009 1020
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	62		1	124	9.3	49-136	20	12/18/2009 1020
1,2,4-Trichlorobenzene	50	62		1	124	5.8	34-145	20	12/18/2009 1020
1,1,2-Trichloroethane	50	52		1	104	7.0	55-128	20	12/18/2009 1020
1,1,1-Trichloroethane	50	62		1	123	9.9	63-128	20	12/18/2009 1020

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23960-003
Batch: 23960
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	62		1	124	10	62-126	20	12/18/2009 1020
Trichlorofluoromethane	50	68		1	136	12	45-138	20	12/18/2009 1020
Vinyl chloride	50	52		1	105	1.6	42-132	20	12/18/2009 1020
Xylenes (total)	100	120		1	122	9.2	58-128	20	12/18/2009 1020

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		115	47-138
1,2-Dichloroethane-d4		89	53-142
Toluene-d8		111	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/19/2009 1824
Benzene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Bromoform	ND		1	5.0	0.70	ug/kg	12/19/2009 1824
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/19/2009 1824
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Chloroethane	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Chloroform	ND		1	5.0	0.83	ug/kg	12/19/2009 1824
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/19/2009 1824
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/19/2009 1824
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/19/2009 1824
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/19/2009 1824
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/19/2009 1824
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/19/2009 1824
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
2-Hexanone	ND		1	10	1.3	ug/kg	12/19/2009 1824
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/19/2009 1824
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/19/2009 1824
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/19/2009 1824
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/19/2009 1824
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/19/2009 1824
Styrene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/19/2009 1824
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/19/2009 1824
Toluene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/19/2009 1824
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/19/2009 1824

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/19/2009 1824
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/19/2009 1824
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/19/2009 1824

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	47-138
1,2-Dichloroethane-d4		92	53-142
Toluene-d8		107	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	123	42-149	12/19/2009 1627
Benzene	50	55		1	110	69-123	12/19/2009 1627
Bromodichloromethane	50	58		1	116	69-121	12/19/2009 1627
Bromoform	50	54		1	109	61-119	12/19/2009 1627
Bromomethane (Methyl bromide)	50	46		1	91	35-144	12/19/2009 1627
2-Butanone (MEK)	100	120		1	120	57-148	12/19/2009 1627
Carbon disulfide	50	58		1	115	58-122	12/19/2009 1627
Carbon tetrachloride	50	59		1	118	58-136	12/19/2009 1627
Chlorobenzene	50	56		1	112	59-129	12/19/2009 1627
Chloroethane	50	51		1	102	50-132	12/19/2009 1627
Chloroform	50	55		1	110	71-125	12/19/2009 1627
Chloromethane (Methyl chloride)	50	46		1	93	34-134	12/19/2009 1627
Cyclohexane	50	58		1	116	53-139	12/19/2009 1627
1,2-Dibromo-3-chloropropane (DBCP)	50	63		1	125	55-125	12/19/2009 1627
Dibromochloromethane	50	55		1	110	66-119	12/19/2009 1627
1,2-Dibromoethane (EDB)	50	57		1	114	74-124	12/19/2009 1627
1,2-Dichlorobenzene	50	60		1	119	57-131	12/19/2009 1627
1,4-Dichlorobenzene	50	61		1	121	52-133	12/19/2009 1627
1,3-Dichlorobenzene	50	61		1	122	51-134	12/19/2009 1627
Dichlorodifluoromethane	50	49		1	98	10-157	12/19/2009 1627
1,2-Dichloroethane	50	55		1	109	67-129	12/19/2009 1627
1,1-Dichloroethane	50	54		1	108	71-127	12/19/2009 1627
1,1-Dichloroethene	50	57		1	114	69-138	12/19/2009 1627
cis-1,2-Dichloroethene	50	56		1	112	70-122	12/19/2009 1627
trans-1,2-Dichloroethene	50	56		1	112	68-131	12/19/2009 1627
1,2-Dichloropropane	50	55		1	111	72-124	12/19/2009 1627
trans-1,3-Dichloropropene	50	55		1	110	70-124	12/19/2009 1627
cis-1,3-Dichloropropene	50	54		1	108	70-126	12/19/2009 1627
Ethylbenzene	50	62		1	123	59-128	12/19/2009 1627
2-Hexanone	100	120		1	117	54-137	12/19/2009 1627
Isopropylbenzene	50	60		1	120	50-136	12/19/2009 1627
Methyl acetate	50	49		1	98	59-137	12/19/2009 1627
Methyl tertiary butyl ether (MTBE)	50	58		1	117	72-122	12/19/2009 1627
4-Methyl-2-pentanone	100	110		1	112	60-134	12/19/2009 1627
Methylcyclohexane	50	61		1	121	41-144	12/19/2009 1627
Methylene chloride	50	53		1	105	77-129	12/19/2009 1627
Styrene	50	57		1	113	54-136	12/19/2009 1627
1,1,2,2-Tetrachloroethane	50	59		1	118	69-132	12/19/2009 1627
Tetrachloroethene	50	59		1	119	70-130	12/19/2009 1627
Toluene	50	59		1	118	61-129	12/19/2009 1627
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	110	49-136	12/19/2009 1627
1,2,4-Trichlorobenzene	50	69		1	137	34-145	12/19/2009 1627
1,1,1-Trichloroethane	50	57		1	113	63-128	12/19/2009 1627
1,1,2-Trichloroethane	50	56		1	112	55-128	12/19/2009 1627

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	57		1	113	62-126	12/19/2009 1627
Trichlorofluoromethane	50	56		1	112	45-138	12/19/2009 1627
Vinyl chloride	50	52		1	103	42-132	12/19/2009 1627
Xylenes (total)	100	120		1	115	58-128	12/19/2009 1627

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		126	47-138
1,2-Dichloroethane-d4		97	53-142
Toluene-d8		117	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	118	4.0	42-149	20	12/19/2009 1650
Benzene	50	49		1	98	11	69-123	20	12/19/2009 1650
Bromodichloromethane	50	55		1	109	5.5	69-121	20	12/19/2009 1650
Bromoform	50	54		1	107	1.6	61-119	20	12/19/2009 1650
Bromomethane (Methyl bromide)	50	43		1	86	5.8	35-144	20	12/19/2009 1650
2-Butanone (MEK)	100	120		1	120	0.13	57-148	20	12/19/2009 1650
Carbon disulfide	50	50		1	100	14	58-122	20	12/19/2009 1650
Carbon tetrachloride	50	52		1	105	12	58-136	20	12/19/2009 1650
Chlorobenzene	50	53		1	106	6.1	59-129	20	12/19/2009 1650
Chloroethane	50	44		1	88	14	50-132	20	12/19/2009 1650
Chloroform	50	51		1	103	6.9	71-125	20	12/19/2009 1650
Chloromethane (Methyl chloride)	50	41		1	81	13	34-134	20	12/19/2009 1650
Cyclohexane	50	50		1	100	15	53-139	20	12/19/2009 1650
1,2-Dibromo-3-chloropropane (DBCP)	50	61		1	123	2.1	55-125	20	12/19/2009 1650
Dibromochloromethane	50	54		1	107	2.4	66-119	20	12/19/2009 1650
1,2-Dibromoethane (EDB)	50	56		1	112	2.5	74-124	20	12/19/2009 1650
1,2-Dichlorobenzene	50	56		1	111	6.8	57-131	20	12/19/2009 1650
1,4-Dichlorobenzene	50	56		1	111	8.5	52-133	20	12/19/2009 1650
1,3-Dichlorobenzene	50	56		1	111	9.4	51-134	20	12/19/2009 1650
Dichlorodifluoromethane	50	42		1	83	16	10-157	20	12/19/2009 1650
1,2-Dichloroethane	50	53		1	106	3.2	67-129	20	12/19/2009 1650
1,1-Dichloroethane	50	49		1	99	9.2	71-127	20	12/19/2009 1650
1,1-Dichloroethene	50	50		1	100	13	69-138	20	12/19/2009 1650
cis-1,2-Dichloroethene	50	52		1	103	8.2	70-122	20	12/19/2009 1650
trans-1,2-Dichloroethene	50	50		1	99	12	68-131	20	12/19/2009 1650
1,2-Dichloropropane	50	51		1	102	8.0	72-124	20	12/19/2009 1650
trans-1,3-Dichloropropene	50	54		1	109	1.1	70-124	20	12/19/2009 1650
cis-1,3-Dichloropropene	50	52		1	104	4.1	70-126	20	12/19/2009 1650
Ethylbenzene	50	56		1	111	10	59-128	20	12/19/2009 1650
2-Hexanone	100	120		1	118	0.90	54-137	20	12/19/2009 1650
Isopropylbenzene	50	54		1	107	11	50-136	20	12/19/2009 1650
Methyl acetate	50	50		1	99	0.92	59-137	20	12/19/2009 1650
Methyl tertiary butyl ether (MTBE)	50	57		1	115	1.5	72-122	20	12/19/2009 1650
4-Methyl-2-pentanone	100	110		1	112	0.52	60-134	20	12/19/2009 1650
Methylcyclohexane	50	52		1	103	16	41-144	20	12/19/2009 1650
Methylene chloride	50	49		1	97	7.7	77-129	20	12/19/2009 1650
Styrene	50	53		1	106	7.0	54-136	20	12/19/2009 1650
1,1,2,2-Tetrachloroethane	50	58		1	115	2.3	69-132	20	12/19/2009 1650
Tetrachloroethene	50	53		1	106	11	70-130	20	12/19/2009 1650
Toluene	50	54		1	107	9.4	61-129	20	12/19/2009 1650
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	48		1	95	14	49-136	20	12/19/2009 1650
1,2,4-Trichlorobenzene	50	62		1	123	11	34-145	20	12/19/2009 1650
1,1,1-Trichloroethane	50	50		1	101	12	63-128	20	12/19/2009 1650
1,1,2-Trichloroethane	50	55		1	109	2.3	55-128	20	12/19/2009 1650

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	50		1	100	12	62-126	20	12/19/2009 1650
Trichlorofluoromethane	50	48		1	96	16	45-138	20	12/19/2009 1650
Vinyl chloride	50	41	+	1	83	22	42-132	20	12/19/2009 1650
Xylenes (total)	100	100		1	105	9.3	58-128	20	12/19/2009 1650

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		125	47-138
1,2-Dichloroethane-d4		96	53-142
Toluene-d8		115	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24314-001
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/23/2009 1621
Benzene	ND		1	5.0	1.1	ug/kg	12/23/2009 1621
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
Bromoform	ND		1	5.0	0.70	ug/kg	12/23/2009 1621
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/23/2009 1621
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/23/2009 1621
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/23/2009 1621
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/23/2009 1621
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
Chloroethane	ND		1	5.0	1.3	ug/kg	12/23/2009 1621
Chloroform	ND		1	5.0	0.83	ug/kg	12/23/2009 1621
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/23/2009 1621
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/23/2009 1621
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/23/2009 1621
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/23/2009 1621
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/23/2009 1621
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/23/2009 1621
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/23/2009 1621
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/23/2009 1621
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/23/2009 1621
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/23/2009 1621
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/23/2009 1621
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/23/2009 1621
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
2-Hexanone	ND		1	10	1.3	ug/kg	12/23/2009 1621
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/23/2009 1621
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/23/2009 1621
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/23/2009 1621
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/23/2009 1621
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/23/2009 1621
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/23/2009 1621
Styrene	ND		1	5.0	1.1	ug/kg	12/23/2009 1621
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/23/2009 1621
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/23/2009 1621
Toluene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/23/2009 1621
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/23/2009 1621
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/23/2009 1621
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/23/2009 1621

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24314-001
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/23/2009 1621
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/23/2009 1621
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/23/2009 1621
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/23/2009 1621

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	47-138
1,2-Dichloroethane-d4		78	53-142
Toluene-d8		90	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24314-002
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	130		1	133	42-149	12/23/2009 1510
Benzene	50	48		1	96	69-123	12/23/2009 1510
Bromodichloromethane	50	50		1	101	69-121	12/23/2009 1510
Bromoform	50	51		1	102	61-119	12/23/2009 1510
Bromomethane (Methyl bromide)	50	52		1	103	35-144	12/23/2009 1510
2-Butanone (MEK)	100	110		1	115	57-148	12/23/2009 1510
Carbon disulfide	50	50		1	100	58-122	12/23/2009 1510
Carbon tetrachloride	50	47		1	95	58-136	12/23/2009 1510
Chlorobenzene	50	51		1	102	59-129	12/23/2009 1510
Chloroethane	50	54		1	107	50-132	12/23/2009 1510
Chloroform	50	48		1	97	71-125	12/23/2009 1510
Chloromethane (Methyl chloride)	50	66		1	132	34-134	12/23/2009 1510
Cyclohexane	50	44		1	88	53-139	12/23/2009 1510
1,2-Dibromo-3-chloropropane (DBCP)	50	48		1	96	55-125	12/23/2009 1510
Dibromochloromethane	50	52		1	105	66-119	12/23/2009 1510
1,2-Dibromoethane (EDB)	50	52		1	104	74-124	12/23/2009 1510
1,4-Dichlorobenzene	50	52		1	105	52-133	12/23/2009 1510
1,3-Dichlorobenzene	50	54		1	108	51-134	12/23/2009 1510
1,2-Dichlorobenzene	50	51		1	102	57-131	12/23/2009 1510
Dichlorodifluoromethane	50	56		1	112	10-157	12/23/2009 1510
1,2-Dichloroethane	50	49		1	98	67-129	12/23/2009 1510
1,1-Dichloroethane	50	48		1	97	71-127	12/23/2009 1510
trans-1,2-Dichloroethene	50	48		1	97	68-131	12/23/2009 1510
cis-1,2-Dichloroethene	50	49		1	98	70-122	12/23/2009 1510
1,1-Dichloroethene	50	47		1	93	69-138	12/23/2009 1510
1,2-Dichloropropane	50	50		1	99	72-124	12/23/2009 1510
trans-1,3-Dichloropropene	50	53		1	105	70-124	12/23/2009 1510
cis-1,3-Dichloropropene	50	52		1	103	70-126	12/23/2009 1510
Ethylbenzene	50	53		1	106	59-128	12/23/2009 1510
2-Hexanone	100	100		1	100	54-137	12/23/2009 1510
Isopropylbenzene	50	56		1	111	50-136	12/23/2009 1510
Methyl acetate	50	54		1	107	59-137	12/23/2009 1510
Methyl tertiary butyl ether (MTBE)	50	50		1	99	72-122	12/23/2009 1510
4-Methyl-2-pentanone	100	96		1	96	60-134	12/23/2009 1510
Methylcyclohexane	50	51		1	102	41-144	12/23/2009 1510
Methylene chloride	50	47		1	94	77-129	12/23/2009 1510
Styrene	50	55		1	111	54-136	12/23/2009 1510
1,1,2,2-Tetrachloroethane	50	50		1	100	69-132	12/23/2009 1510
Tetrachloroethene	50	51		1	103	70-130	12/23/2009 1510
Toluene	50	51		1	102	61-129	12/23/2009 1510
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	44		1	88	49-136	12/23/2009 1510
1,2,4-Trichlorobenzene	50	56		1	113	34-145	12/23/2009 1510
1,1,2-Trichloroethane	50	50		1	99	55-128	12/23/2009 1510
1,1,1-Trichloroethane	50	46		1	93	63-128	12/23/2009 1510

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24314-002
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	49		1	98	62-126	12/23/2009 1510
Trichlorofluoromethane	50	52		1	103	45-138	12/23/2009 1510
Vinyl chloride	50	60		1	119	42-132	12/23/2009 1510
Xylenes (total)	100	110		1	108	58-128	12/23/2009 1510

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	47-138
1,2-Dichloroethane-d4		75	53-142
Toluene-d8		90	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24314-003
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	122	8.3	42-149	20	12/23/2009 1954
Benzene	50	53		1	106	9.8	69-123	20	12/23/2009 1954
Bromodichloromethane	50	53		1	105	4.1	69-121	20	12/23/2009 1954
Bromoform	50	51		1	102	0.047	61-119	20	12/23/2009 1954
Bromomethane (Methyl bromide)	50	60		1	121	16	35-144	20	12/23/2009 1954
2-Butanone (MEK)	100	110		1	113	1.9	57-148	20	12/23/2009 1954
Carbon disulfide	50	56		1	112	12	58-122	20	12/23/2009 1954
Carbon tetrachloride	50	52		1	103	8.9	58-136	20	12/23/2009 1954
Chlorobenzene	50	54		1	108	5.9	59-129	20	12/23/2009 1954
Chloroethane	50	60		1	120	11	50-132	20	12/23/2009 1954
Chloroform	50	52		1	103	6.8	71-125	20	12/23/2009 1954
Chloromethane (Methyl chloride)	50	80	N	1	160	20	34-134	20	12/23/2009 1954
Cyclohexane	50	51		1	101	14	53-139	20	12/23/2009 1954
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	91	5.2	55-125	20	12/23/2009 1954
Dibromochloromethane	50	53		1	106	1.3	66-119	20	12/23/2009 1954
1,2-Dibromoethane (EDB)	50	52		1	105	0.88	74-124	20	12/23/2009 1954
1,4-Dichlorobenzene	50	54		1	108	2.6	52-133	20	12/23/2009 1954
1,3-Dichlorobenzene	50	55		1	110	1.8	51-134	20	12/23/2009 1954
1,2-Dichlorobenzene	50	51		1	102	0.94	57-131	20	12/23/2009 1954
Dichlorodifluoromethane	50	65		1	130	15	10-157	20	12/23/2009 1954
1,2-Dichloroethane	50	51		1	101	3.6	67-129	20	12/23/2009 1954
1,1-Dichloroethane	50	52		1	105	7.9	71-127	20	12/23/2009 1954
trans-1,2-Dichloroethene	50	53		1	106	9.0	68-131	20	12/23/2009 1954
cis-1,2-Dichloroethene	50	52		1	104	5.9	70-122	20	12/23/2009 1954
1,1-Dichloroethene	50	52		1	104	11	69-138	20	12/23/2009 1954
1,2-Dichloropropane	50	53		1	106	6.9	72-124	20	12/23/2009 1954
trans-1,3-Dichloropropene	50	52		1	105	0.52	70-124	20	12/23/2009 1954
cis-1,3-Dichloropropene	50	53		1	105	1.7	70-126	20	12/23/2009 1954
Ethylbenzene	50	57		1	113	6.9	59-128	20	12/23/2009 1954
2-Hexanone	100	94		1	94	6.1	54-137	20	12/23/2009 1954
Isopropylbenzene	50	60		1	120	7.5	50-136	20	12/23/2009 1954
Methyl acetate	50	55		1	110	2.6	59-137	20	12/23/2009 1954
Methyl tertiary butyl ether (MTBE)	50	50		1	99	0.038	72-122	20	12/23/2009 1954
4-Methyl-2-pentanone	100	97		1	97	0.90	60-134	20	12/23/2009 1954
Methylcyclohexane	50	58		1	116	13	41-144	20	12/23/2009 1954
Methylene chloride	50	49		1	98	4.6	77-129	20	12/23/2009 1954
Styrene	50	58		1	116	4.9	54-136	20	12/23/2009 1954
1,1,2,2-Tetrachloroethane	50	51		1	101	0.77	69-132	20	12/23/2009 1954
Tetrachloroethene	50	56		1	112	8.3	70-130	20	12/23/2009 1954
Toluene	50	55		1	110	7.1	61-129	20	12/23/2009 1954
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	50		1	100	13	49-136	20	12/23/2009 1954
1,2,4-Trichlorobenzene	50	52		1	104	8.2	34-145	20	12/23/2009 1954
1,1,2-Trichloroethane	50	52		1	103	3.7	55-128	20	12/23/2009 1954
1,1,1-Trichloroethane	50	52		1	103	11	63-128	20	12/23/2009 1954

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24314-003
Batch: 24314
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	52		1	105	7.0	62-126	20	12/23/2009 1954
Trichlorofluoromethane	50	59		1	118	13	45-138	20	12/23/2009 1954
Vinyl chloride	50	72	N	1	143	18	42-132	20	12/23/2009 1954
Xylenes (total)	100	110		1	115	6.3	58-128	20	12/23/2009 1954

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	47-138
1,2-Dichloroethane-d4		77	53-142
Toluene-d8		94	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24321-001
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		50	1000	340	ug/kg	12/23/2009 2237
Benzene	ND		50	250	55	ug/kg	12/23/2009 2237
Bromodichloromethane	ND		50	250	85	ug/kg	12/23/2009 2237
Bromoform	ND		50	250	35	ug/kg	12/23/2009 2237
Bromomethane (Methyl bromide)	ND		50	250	90	ug/kg	12/23/2009 2237
2-Butanone (MEK)	ND		50	500	120	ug/kg	12/23/2009 2237
Carbon disulfide	ND		50	250	65	ug/kg	12/23/2009 2237
Carbon tetrachloride	ND		50	250	90	ug/kg	12/23/2009 2237
Chlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
Chloroethane	ND		50	250	65	ug/kg	12/23/2009 2237
Chloroform	ND		50	250	42	ug/kg	12/23/2009 2237
Chloromethane (Methyl chloride)	ND		50	250	50	ug/kg	12/23/2009 2237
Cyclohexane	ND		50	250	34	ug/kg	12/23/2009 2237
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	250	75	ug/kg	12/23/2009 2237
Dibromochloromethane	ND		50	250	85	ug/kg	12/23/2009 2237
1,2-Dibromoethane (EDB)	ND		50	250	43	ug/kg	12/23/2009 2237
1,3-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,2-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,4-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
Dichlorodifluoromethane	ND		50	250	80	ug/kg	12/23/2009 2237
1,1-Dichloroethane	ND		50	250	37	ug/kg	12/23/2009 2237
1,2-Dichloroethane	ND		50	250	50	ug/kg	12/23/2009 2237
1,1-Dichloroethene	ND		50	250	85	ug/kg	12/23/2009 2237
cis-1,2-Dichloroethene	ND		50	250	38	ug/kg	12/23/2009 2237
trans-1,2-Dichloroethene	ND		50	250	75	ug/kg	12/23/2009 2237
1,2-Dichloropropane	ND		50	250	46	ug/kg	12/23/2009 2237
cis-1,3-Dichloropropene	ND		50	250	34	ug/kg	12/23/2009 2237
trans-1,3-Dichloropropene	ND		50	250	41	ug/kg	12/23/2009 2237
Ethylbenzene	ND		50	250	85	ug/kg	12/23/2009 2237
2-Hexanone	ND		50	500	65	ug/kg	12/23/2009 2237
Isopropylbenzene	ND		50	250	40	ug/kg	12/23/2009 2237
Methyl acetate	ND		50	250	34	ug/kg	12/23/2009 2237
Methyl tertiary butyl ether (MTBE)	ND		50	250	20	ug/kg	12/23/2009 2237
4-Methyl-2-pentanone	ND		50	500	75	ug/kg	12/23/2009 2237
Methylcyclohexane	ND		50	250	31	ug/kg	12/23/2009 2237
Methylene chloride	ND		50	250	130	ug/kg	12/23/2009 2237
Styrene	ND		50	250	55	ug/kg	12/23/2009 2237
1,1,2,2-Tetrachloroethane	ND		50	250	24	ug/kg	12/23/2009 2237
Tetrachloroethene	ND		50	250	110	ug/kg	12/23/2009 2237
Toluene	ND		50	250	85	ug/kg	12/23/2009 2237
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		50	250	110	ug/kg	12/23/2009 2237
1,2,4-Trichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,1,2-Trichloroethane	ND		50	250	40	ug/kg	12/23/2009 2237
1,1,1-Trichloroethane	ND		50	250	43	ug/kg	12/23/2009 2237

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24321-001
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		50	250	95	ug/kg	12/23/2009 2237
Trichlorofluoromethane	ND		50	250	75	ug/kg	12/23/2009 2237
Vinyl chloride	ND		50	250	43	ug/kg	12/23/2009 2237
Xylenes (total)	ND		50	250	150	ug/kg	12/23/2009 2237

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		55	47-138
1,2-Dichloroethane-d4		60	53-142
Toluene-d8	N	62	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24321-002
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	2000	1200		50	61	42-149	12/23/2009 2300
Benzene	1000	790		50	79	69-123	12/23/2009 2300
Bromodichloromethane	1000	740		50	74	69-121	12/23/2009 2300
Bromoform	1000	610		50	61	61-119	12/23/2009 2300
Bromomethane (Methyl bromide)	1000	640		50	64	35-144	12/23/2009 2300
2-Butanone (MEK)	2000	1300		50	63	57-148	12/23/2009 2300
Carbon disulfide	1000	760		50	76	58-122	12/23/2009 2300
Carbon tetrachloride	1000	740		50	74	58-136	12/23/2009 2300
Chlorobenzene	1000	790		50	79	59-129	12/23/2009 2300
Chloroethane	1000	650		50	65	50-132	12/23/2009 2300
Chloroform	1000	790		50	79	71-125	12/23/2009 2300
Chloromethane (Methyl chloride)	1000	830		50	83	34-134	12/23/2009 2300
Cyclohexane	1000	780		50	78	53-139	12/23/2009 2300
1,2-Dibromo-3-chloropropane (DBCP)	1000	520	N	50	52	55-125	12/23/2009 2300
Dibromochloromethane	1000	710		50	71	66-119	12/23/2009 2300
1,2-Dibromoethane (EDB)	1000	730	N	50	73	74-124	12/23/2009 2300
1,3-Dichlorobenzene	1000	740		50	74	51-134	12/23/2009 2300
1,2-Dichlorobenzene	1000	730		50	73	57-131	12/23/2009 2300
1,4-Dichlorobenzene	1000	740		50	74	52-133	12/23/2009 2300
Dichlorodifluoromethane	1000	650		50	65	10-157	12/23/2009 2300
1,1-Dichloroethane	1000	810		50	81	71-127	12/23/2009 2300
1,2-Dichloroethane	1000	780		50	78	67-129	12/23/2009 2300
1,1-Dichloroethene	1000	770		50	77	69-138	12/23/2009 2300
cis-1,2-Dichloroethene	1000	790		50	79	70-122	12/23/2009 2300
trans-1,2-Dichloroethene	1000	780		50	78	68-131	12/23/2009 2300
1,2-Dichloropropane	1000	780		50	78	72-124	12/23/2009 2300
cis-1,3-Dichloropropene	1000	750		50	75	70-126	12/23/2009 2300
trans-1,3-Dichloropropene	1000	740		50	74	70-124	12/23/2009 2300
Ethylbenzene	1000	790		50	79	59-128	12/23/2009 2300
2-Hexanone	2000	1100		50	57	54-137	12/23/2009 2300
Isopropylbenzene	1000	820		50	82	50-136	12/23/2009 2300
Methyl acetate	1000	1100		50	111	59-137	12/23/2009 2300
Methyl tertiary butyl ether (MTBE)	1000	800		50	80	72-122	12/23/2009 2300
4-Methyl-2-pentanone	2000	1100	N	50	54	60-134	12/23/2009 2300
Methylcyclohexane	1000	810		50	81	41-144	12/23/2009 2300
Methylene chloride	1000	830		50	83	77-129	12/23/2009 2300
Styrene	1000	780		50	78	54-136	12/23/2009 2300
1,1,2,2-Tetrachloroethane	1000	420	N	50	42	69-132	12/23/2009 2300
Tetrachloroethene	1000	770		50	77	70-130	12/23/2009 2300
Toluene	1000	790		50	79	61-129	12/23/2009 2300
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	720		50	72	49-136	12/23/2009 2300
1,2,4-Trichlorobenzene	1000	490		50	49	34-145	12/23/2009 2300
1,1,2-Trichloroethane	1000	780		50	78	55-128	12/23/2009 2300
1,1,1-Trichloroethane	1000	770		50	77	63-128	12/23/2009 2300

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24321-002
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	1000	760		50	76	62-126	12/23/2009 2300
Trichlorofluoromethane	1000	840		50	84	45-138	12/23/2009 2300
Vinyl chloride	1000	850		50	85	42-132	12/23/2009 2300
Xylenes (total)	2000	1600		50	79	58-128	12/23/2009 2300

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		60	47-138
1,2-Dichloroethane-d4		62	53-142
Toluene-d8	N	64	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24321-003
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	2000	1400		50	68	11	42-149	20	12/23/2009 2323
Benzene	1000	770		50	77	2.4	69-123	20	12/23/2009 2323
Bromodichloromethane	1000	730		50	73	1.5	69-121	20	12/23/2009 2323
Bromoform	1000	600	N	50	60	1.3	61-119	20	12/23/2009 2323
Bromomethane (Methyl bromide)	1000	610		50	61	4.3	35-144	20	12/23/2009 2323
2-Butanone (MEK)	2000	1300		50	63	0.52	57-148	20	12/23/2009 2323
Carbon disulfide	1000	760		50	76	1.2	58-122	20	12/23/2009 2323
Carbon tetrachloride	1000	730		50	73	1.2	58-136	20	12/23/2009 2323
Chlorobenzene	1000	780		50	78	0.94	59-129	20	12/23/2009 2323
Chloroethane	1000	620		50	62	5.7	50-132	20	12/23/2009 2323
Chloroform	1000	770		50	77	2.0	71-125	20	12/23/2009 2323
Chloromethane (Methyl chloride)	1000	740		50	74	12	34-134	20	12/23/2009 2323
Cyclohexane	1000	770		50	77	2.1	53-139	20	12/23/2009 2323
1,2-Dibromo-3-chloropropane (DBCP)	1000	560		50	56	8.1	55-125	20	12/23/2009 2323
Dibromochloromethane	1000	690		50	69	3.7	66-119	20	12/23/2009 2323
1,2-Dibromoethane (EDB)	1000	710	N	50	71	2.8	74-124	20	12/23/2009 2323
1,3-Dichlorobenzene	1000	760		50	76	2.5	51-134	20	12/23/2009 2323
1,2-Dichlorobenzene	1000	740		50	74	0.72	57-131	20	12/23/2009 2323
1,4-Dichlorobenzene	1000	750		50	75	0.29	52-133	20	12/23/2009 2323
Dichlorodifluoromethane	1000	630		50	63	3.2	10-157	20	12/23/2009 2323
1,1-Dichloroethane	1000	780		50	78	3.9	71-127	20	12/23/2009 2323
1,2-Dichloroethane	1000	740		50	74	4.8	67-129	20	12/23/2009 2323
1,1-Dichloroethene	1000	760		50	76	2.1	69-138	20	12/23/2009 2323
cis-1,2-Dichloroethene	1000	780		50	78	0.83	70-122	20	12/23/2009 2323
trans-1,2-Dichloroethene	1000	770		50	77	1.8	68-131	20	12/23/2009 2323
1,2-Dichloropropane	1000	760		50	76	2.7	72-124	20	12/23/2009 2323
cis-1,3-Dichloropropene	1000	720		50	72	3.9	70-126	20	12/23/2009 2323
trans-1,3-Dichloropropene	1000	720		50	72	2.3	70-124	20	12/23/2009 2323
Ethylbenzene	1000	790		50	79	0.066	59-128	20	12/23/2009 2323
2-Hexanone	2000	1100		50	57	0.24	54-137	20	12/23/2009 2323
Isopropylbenzene	1000	820		50	82	0.63	50-136	20	12/23/2009 2323
Methyl acetate	1000	910		50	91	20	59-137	20	12/23/2009 2323
Methyl tertiary butyl ether (MTBE)	1000	750		50	75	6.4	72-122	20	12/23/2009 2323
4-Methyl-2-pentanone	2000	1100	N	50	56	3.1	60-134	20	12/23/2009 2323
Methylcyclohexane	1000	810		50	81	0.88	41-144	20	12/23/2009 2323
Methylene chloride	1000	790		50	79	4.4	77-129	20	12/23/2009 2323
Styrene	1000	760		50	76	1.8	54-136	20	12/23/2009 2323
1,1,2,2-Tetrachloroethane	1000	410	N	50	41	2.6	69-132	20	12/23/2009 2323
Tetrachloroethene	1000	780		50	78	2.0	70-130	20	12/23/2009 2323
Toluene	1000	790		50	79	0.46	61-129	20	12/23/2009 2323
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	730		50	73	0.46	49-136	20	12/23/2009 2323
1,2,4-Trichlorobenzene	1000	540		50	54	11	34-145	20	12/23/2009 2323
1,1,2-Trichloroethane	1000	750		50	75	3.2	55-128	20	12/23/2009 2323
1,1,1-Trichloroethane	1000	740		50	74	3.3	63-128	20	12/23/2009 2323

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24321-003
Batch: 24321
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	1000	740		50	74	2.7	62-126	20	12/23/2009 2323
Trichlorofluoromethane	1000	820		50	82	2.3	45-138	20	12/23/2009 2323
Vinyl chloride	1000	830		50	83	1.7	42-132	20	12/23/2009 2323
Xylenes (total)	2000	1600		50	80	0.12	58-128	20	12/23/2009 2323

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		59	47-138
1,2-Dichloroethane-d4		60	53-142
Toluene-d8	N	63	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24685-001
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		50	1000	340	ug/kg	12/23/2009 2237
Benzene	ND		50	250	55	ug/kg	12/23/2009 2237
Bromodichloromethane	ND		50	250	85	ug/kg	12/23/2009 2237
Bromoform	ND		50	250	35	ug/kg	12/23/2009 2237
Bromomethane (Methyl bromide)	ND		50	250	90	ug/kg	12/23/2009 2237
2-Butanone (MEK)	ND		50	500	120	ug/kg	12/23/2009 2237
Carbon disulfide	ND		50	250	65	ug/kg	12/23/2009 2237
Carbon tetrachloride	ND		50	250	90	ug/kg	12/23/2009 2237
Chlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
Chloroethane	ND		50	250	65	ug/kg	12/23/2009 2237
Chloroform	ND		50	250	42	ug/kg	12/23/2009 2237
Chloromethane (Methyl chloride)	ND		50	250	50	ug/kg	12/23/2009 2237
Cyclohexane	ND		50	250	34	ug/kg	12/23/2009 2237
1,2-Dibromo-3-chloropropane (DBCP)	ND		50	250	75	ug/kg	12/23/2009 2237
Dibromochloromethane	ND		50	250	85	ug/kg	12/23/2009 2237
1,2-Dibromoethane (EDB)	ND		50	250	43	ug/kg	12/23/2009 2237
1,4-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,3-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,2-Dichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
Dichlorodifluoromethane	ND		50	250	80	ug/kg	12/23/2009 2237
1,2-Dichloroethane	ND		50	250	50	ug/kg	12/23/2009 2237
1,1-Dichloroethane	ND		50	250	37	ug/kg	12/23/2009 2237
trans-1,2-Dichloroethene	ND		50	250	75	ug/kg	12/23/2009 2237
cis-1,2-Dichloroethene	ND		50	250	38	ug/kg	12/23/2009 2237
1,1-Dichloroethene	ND		50	250	85	ug/kg	12/23/2009 2237
1,2-Dichloropropane	ND		50	250	46	ug/kg	12/23/2009 2237
trans-1,3-Dichloropropene	ND		50	250	41	ug/kg	12/23/2009 2237
cis-1,3-Dichloropropene	ND		50	250	34	ug/kg	12/23/2009 2237
Ethylbenzene	ND		50	250	85	ug/kg	12/23/2009 2237
2-Hexanone	ND		50	500	65	ug/kg	12/23/2009 2237
Isopropylbenzene	ND		50	250	40	ug/kg	12/23/2009 2237
Methyl acetate	ND		50	250	34	ug/kg	12/23/2009 2237
Methyl tertiary butyl ether (MTBE)	ND		50	250	20	ug/kg	12/23/2009 2237
4-Methyl-2-pentanone	ND		50	500	75	ug/kg	12/23/2009 2237
Methylcyclohexane	ND		50	250	31	ug/kg	12/23/2009 2237
Methylene chloride	ND		50	250	130	ug/kg	12/23/2009 2237
Styrene	ND		50	250	55	ug/kg	12/23/2009 2237
1,1,2,2-Tetrachloroethane	ND		50	250	24	ug/kg	12/23/2009 2237
Tetrachloroethene	ND		50	250	110	ug/kg	12/23/2009 2237
Toluene	ND		50	250	85	ug/kg	12/23/2009 2237
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		50	250	110	ug/kg	12/23/2009 2237
1,2,4-Trichlorobenzene	ND		50	250	85	ug/kg	12/23/2009 2237
1,1,2-Trichloroethane	ND		50	250	40	ug/kg	12/23/2009 2237
1,1,1-Trichloroethane	ND		50	250	43	ug/kg	12/23/2009 2237

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24685-001
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		50	250	95	ug/kg	12/23/2009 2237
Trichlorofluoromethane	ND		50	250	75	ug/kg	12/23/2009 2237
Vinyl chloride	ND		50	250	43	ug/kg	12/23/2009 2237
Xylenes (total)	ND		50	250	150	ug/kg	12/23/2009 2237

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		72	47-138
1,2-Dichloroethane-d4		77	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24685-002
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	2000	1200		50	61	42-149	12/23/2009 2300
Benzene	1000	790		50	79	69-123	12/23/2009 2300
Bromodichloromethane	1000	740		50	74	69-121	12/23/2009 2300
Bromoform	1000	610		50	61	61-119	12/23/2009 2300
Bromomethane (Methyl bromide)	1000	640		50	64	35-144	12/23/2009 2300
2-Butanone (MEK)	2000	1300		50	63	57-148	12/23/2009 2300
Carbon disulfide	1000	760		50	76	58-122	12/23/2009 2300
Carbon tetrachloride	1000	740		50	74	58-136	12/23/2009 2300
Chlorobenzene	1000	790		50	79	59-129	12/23/2009 2300
Chloroethane	1000	650		50	65	50-132	12/23/2009 2300
Chloroform	1000	790		50	79	71-125	12/23/2009 2300
Chloromethane (Methyl chloride)	1000	830		50	83	34-134	12/23/2009 2300
Cyclohexane	1000	780		50	78	53-139	12/23/2009 2300
1,2-Dibromo-3-chloropropane (DBCP)	1000	520	N	50	52	55-125	12/23/2009 2300
Dibromochloromethane	1000	710		50	71	66-119	12/23/2009 2300
1,2-Dibromoethane (EDB)	1000	730	N	50	73	74-124	12/23/2009 2300
1,4-Dichlorobenzene	1000	740		50	74	52-133	12/23/2009 2300
1,3-Dichlorobenzene	1000	740		50	74	51-134	12/23/2009 2300
1,2-Dichlorobenzene	1000	730		50	73	57-131	12/23/2009 2300
Dichlorodifluoromethane	1000	650		50	65	10-157	12/23/2009 2300
1,2-Dichloroethane	1000	780		50	78	67-129	12/23/2009 2300
1,1-Dichloroethane	1000	810		50	81	71-127	12/23/2009 2300
trans-1,2-Dichloroethene	1000	780		50	78	68-131	12/23/2009 2300
cis-1,2-Dichloroethene	1000	790		50	79	70-122	12/23/2009 2300
1,1-Dichloroethene	1000	770		50	77	69-138	12/23/2009 2300
1,2-Dichloropropane	1000	780		50	78	72-124	12/23/2009 2300
trans-1,3-Dichloropropene	1000	740		50	74	70-124	12/23/2009 2300
cis-1,3-Dichloropropene	1000	750		50	75	70-126	12/23/2009 2300
Ethylbenzene	1000	790		50	79	59-128	12/23/2009 2300
2-Hexanone	2000	1100		50	57	54-137	12/23/2009 2300
Isopropylbenzene	1000	820		50	82	50-136	12/23/2009 2300
Methyl acetate	1000	1100		50	111	59-137	12/23/2009 2300
Methyl tertiary butyl ether (MTBE)	1000	800		50	80	72-122	12/23/2009 2300
4-Methyl-2-pentanone	2000	1100	N	50	54	60-134	12/23/2009 2300
Methylcyclohexane	1000	810		50	81	41-144	12/23/2009 2300
Methylene chloride	1000	830		50	83	77-129	12/23/2009 2300
Styrene	1000	780		50	78	54-136	12/23/2009 2300
1,1,2,2-Tetrachloroethane	1000	420	N	50	42	69-132	12/23/2009 2300
Tetrachloroethene	1000	770		50	77	70-130	12/23/2009 2300
Toluene	1000	790		50	79	61-129	12/23/2009 2300
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	720		50	72	49-136	12/23/2009 2300
1,2,4-Trichlorobenzene	1000	490		50	49	34-145	12/23/2009 2300
1,1,2-Trichloroethane	1000	780		50	78	55-128	12/23/2009 2300
1,1,1-Trichloroethane	1000	770		50	77	63-128	12/23/2009 2300

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24685-002
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	1000	760		50	76	62-126	12/23/2009 2300
Trichlorofluoromethane	1000	840		50	84	45-138	12/23/2009 2300
Vinyl chloride	1000	850		50	85	42-132	12/23/2009 2300
Xylenes (total)	2000	1600		50	79	58-128	12/23/2009 2300

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		78	47-138
1,2-Dichloroethane-d4		81	53-142
Toluene-d8		84	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24685-003
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	2000	1400		50	68	11	42-149	20	12/23/2009 2323
Benzene	1000	770		50	77	2.4	69-123	20	12/23/2009 2323
Bromodichloromethane	1000	730		50	73	1.5	69-121	20	12/23/2009 2323
Bromoform	1000	600	N	50	60	1.3	61-119	20	12/23/2009 2323
Bromomethane (Methyl bromide)	1000	610		50	61	4.3	35-144	20	12/23/2009 2323
2-Butanone (MEK)	2000	1300		50	63	0.52	57-148	20	12/23/2009 2323
Carbon disulfide	1000	760		50	76	1.2	58-122	20	12/23/2009 2323
Carbon tetrachloride	1000	730		50	73	1.2	58-136	20	12/23/2009 2323
Chlorobenzene	1000	780		50	78	0.94	59-129	20	12/23/2009 2323
Chloroethane	1000	620		50	62	5.7	50-132	20	12/23/2009 2323
Chloroform	1000	770		50	77	2.0	71-125	20	12/23/2009 2323
Chloromethane (Methyl chloride)	1000	740		50	74	12	34-134	20	12/23/2009 2323
Cyclohexane	1000	770		50	77	2.1	53-139	20	12/23/2009 2323
1,2-Dibromo-3-chloropropane (DBCP)	1000	560		50	56	8.1	55-125	20	12/23/2009 2323
Dibromochloromethane	1000	690		50	69	3.7	66-119	20	12/23/2009 2323
1,2-Dibromoethane (EDB)	1000	710	N	50	71	2.8	74-124	20	12/23/2009 2323
1,4-Dichlorobenzene	1000	750		50	75	0.29	52-133	20	12/23/2009 2323
1,3-Dichlorobenzene	1000	760		50	76	2.5	51-134	20	12/23/2009 2323
1,2-Dichlorobenzene	1000	740		50	74	0.72	57-131	20	12/23/2009 2323
Dichlorodifluoromethane	1000	630		50	63	3.2	10-157	20	12/23/2009 2323
1,2-Dichloroethane	1000	740		50	74	4.8	67-129	20	12/23/2009 2323
1,1-Dichloroethane	1000	780		50	78	3.9	71-127	20	12/23/2009 2323
trans-1,2-Dichloroethene	1000	770		50	77	1.8	68-131	20	12/23/2009 2323
cis-1,2-Dichloroethene	1000	780		50	78	0.83	70-122	20	12/23/2009 2323
1,1-Dichloroethene	1000	760		50	76	2.1	69-138	20	12/23/2009 2323
1,2-Dichloropropane	1000	760		50	76	2.7	72-124	20	12/23/2009 2323
trans-1,3-Dichloropropene	1000	720		50	72	2.3	70-124	20	12/23/2009 2323
cis-1,3-Dichloropropene	1000	720		50	72	3.9	70-126	20	12/23/2009 2323
Ethylbenzene	1000	790		50	79	0.066	59-128	20	12/23/2009 2323
2-Hexanone	2000	1100		50	57	0.24	54-137	20	12/23/2009 2323
Isopropylbenzene	1000	820		50	82	0.63	50-136	20	12/23/2009 2323
Methyl acetate	1000	910		50	91	20	59-137	20	12/23/2009 2323
Methyl tertiary butyl ether (MTBE)	1000	750		50	75	6.4	72-122	20	12/23/2009 2323
4-Methyl-2-pentanone	2000	1100	N	50	56	3.1	60-134	20	12/23/2009 2323
Methylcyclohexane	1000	810		50	81	0.88	41-144	20	12/23/2009 2323
Methylene chloride	1000	790		50	79	4.4	77-129	20	12/23/2009 2323
Styrene	1000	760		50	76	1.8	54-136	20	12/23/2009 2323
1,1,2,2-Tetrachloroethane	1000	410	N	50	41	2.6	69-132	20	12/23/2009 2323
Tetrachloroethene	1000	780		50	78	2.0	70-130	20	12/23/2009 2323
Toluene	1000	790		50	79	0.46	61-129	20	12/23/2009 2323
1,1,2-Trichloro-1,2,2-Trifluoroethane	1000	730		50	73	0.46	49-136	20	12/23/2009 2323
1,2,4-Trichlorobenzene	1000	540		50	54	11	34-145	20	12/23/2009 2323
1,1,2-Trichloroethane	1000	750		50	75	3.2	55-128	20	12/23/2009 2323
1,1,1-Trichloroethane	1000	740		50	74	3.3	63-128	20	12/23/2009 2323

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24685-003
Batch: 24685
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	1000	740		50	74	2.7	62-126	20	12/23/2009 2323
Trichlorofluoromethane	1000	820		50	82	2.3	45-138	20	12/23/2009 2323
Vinyl chloride	1000	830		50	83	1.7	42-132	20	12/23/2009 2323
Xylenes (total)	2000	1600		50	80	0.12	58-128	20	12/23/2009 2323

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		77	47-138
1,2-Dichloroethane-d4		78	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 101501

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bostian@arcadis-us.com	Quote No. 11954
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X	Waybill No.	Page 1 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell		
Project Name: HAA-17			

Project No.: G-P08 HAF3.H17B.DG0F1
P.O. No.:
Lot No.: KLF3004

Analysis (Attach list if more space is needed.): 8260 VOCs

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Ungres	HNO3	H2SO4	HCl	NaOH	5035 Kit	8260 VOCs	Remarks / Cooler I.D.
H17-AF61 (120909)-(22-23)	12-9-09	1015	G		X							X	5	
H17-AF61 (120909)-(36-37)	12-9-09	1115	G		X							X	5	
H17-AF61 (120909)-(41-42)	12-9-09	1120	G		X							X	5	
H17-AF61 (120909)-(48-49)	12-9-09	1125	G		X							X	5	
H17-AF101 (121009)-(24-25)	12-10-09	1020	G		X							X	5	
H17-AF101 (121009)-(34-35)	12-10-09	1025	G		X							X	5	
H17-PF2 (121009)-(34-35)	12-10-09	1510	G		X							X	5	
H17-PF2 (121009)-(44-45)	12-10-09	1515	G		X							X	5	
H17-PF3 (121109)-(2-3)	12-11-09	0810	G		X							X	5	strong odor
H17-PF3 (121109)-(6-7	12-11-09	0835	G		X							X	5	strong odor

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

1. Relinquished by	Date	Time	1. Received by	Date	Time
	12-11-09	1500			
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by: FEDEX	Date: 12/12/09	Time: 1030	3. Laboratory received by	Date: 12/12/09	Time: 1030

Comments:

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack
Receipt Temp. 5.2 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08.04.09

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 101502

Client: Arcadis	Report to Contact: Scott Bostrom	Telephone No. / Fax No. / E-mail: 919-854-1282/scott.bostrom@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X	Waybill No.	Page 2 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: G-P08HAFS, H17B, DG0F1	P.O. No.		Lot No. KL13004

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Composite (C) / Grab (G)	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	SODIUM BISULFATE	8260 VOCs	Remarks / Cooler I.D.
H17-PF1 (121109)-(6-7)	12-11-09	1015	G		X							X	5	
H17-PF1 (121109)-(34-35)	12-11-09	1030	G		X							X	5	
H17-PF1 (121109)-(44-45)	12-11-09	1035	G		X							X	5	

JDF 12-11-09

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

1. Relinquished by	Date	Time	1. Received by	Date	Time
	12-11-09	1500			
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by: FEDEX	Date: 12/12/09	Time: 1030	3. Laboratory received by	Date: 12/12/09	Time: 1030
Comments:			LAB USE ONLY Received on ice (Circle) (Yes) No Ice Pack	Receipt Temp. 5.2 °C	

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-09

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Replaces Date: 09/22/06
Effective Date: 05/25/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: DMP / 12/03/09 Lot #: KL13004

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 5 / 2.2 °C ___ / ___ °C ___ / ___ °C ___ / ___ °C
___ / ___ °C ___ / ___ °C ___ / ___ °C ___ / ___ °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: ___. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ___ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) ___ were received with bubbles >6 mm in diameter.

Sample(s) ___ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) ___ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: ___ Date of response: ___

Comments: ___

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: HAA-17

Project Number: GP08HAFS.H17B.DG0F1

Lot Number: KL16030

Date Completed: 01/04/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

KL16030

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KL16030

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

Sample -015: The initial run of this sample had an internal standard failure. The sample was reanalyzed outside the holding time. Both runs are reported.

The RPD for Vinyl chloride exceeded method control limits in batch 23963; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCSD recovery for 1,2-Dibromo-3-chloropropane (DBCP) was outside method control limits in batch 24386 . The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The LCS/LCSD recovery for Dichlorodifluoromethane was slightly above method control limits in batch 24397. As per method, it is statistically likely that a few analytes will be outside control limits; up to five analytes may marginally exceed the control limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for Acetone exceeded method control limits in batch 24457; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KL16030

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-PF4 (121409)-(34-35)	Solid	12/14/2009 0930	12/16/2009
002	H17-PF4(121409)-(44-45)	Solid	12/14/2009 0935	12/16/2009
003	H17-FD3 (121409)-(34-35)	Solid	12/14/2009 1415	12/16/2009
004	H17-FD3 (121409)-(44-45)	Solid	12/14/2009 1420	12/16/2009
005	H17-FD1 (121409)-(34-35)	Solid	12/14/2009 1100	12/16/2009
006	H17-FD1 (121409)-(44-45)	Solid	12/14/2009 1105	12/16/2009
007	H17-FD2 (121409)-(34-45)	Solid	12/14/2009 1600	12/16/2009
008	H17-FD2 (121409)-(44-45)	Solid	12/14/2009 1605	12/16/2009
009	H17-FD2 (121509)-(41-45)	Aqueous	12/15/2009 0745	12/16/2009
010	H17-FD3 (121509)-(41-45)	Aqueous	12/15/2009 0830	12/16/2009
011	H17-FD1 (121509)-(41-45)	Aqueous	12/15/2009 0915	12/16/2009
012	H17-PF4 (121509)-(41-45)	Aqueous	12/15/2009 0945	12/16/2009
013	H17-PF1 (121509)-(41-45)	Aqueous	12/15/2009 1045	12/16/2009
014	H17-AF102 (121509)-(34-35)	Solid	12/15/2009 1500	12/16/2009
015	H17-AF102 (121509)-(44-45)	Solid	12/15/2009 1505	12/16/2009
016	H17-AF102 (121509)-(41-45)	Aqueous	12/15/2009 1520	12/16/2009
017	H17-AF103 (121509)-(41-45)	Aqueous	12/15/2009 1610	12/16/2009
018	TRIP BLANK	Aqueous	12/16/2009 0840	12/16/2009

(18 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: KL16030

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-PF4 (121409)-(34-35)	Solid	Chloromethane (Methyl chloride)	8260B	0.88	J	ug/kg	6
001	H17-PF4 (121409)-(34-35)	Solid	Tetrachloroethene	8260B	2.4		ug/kg	6
001	H17-PF4 (121409)-(34-35)	Solid	Toluene	8260B	0.97	J	ug/kg	6
001	H17-PF4 (121409)-(34-35)	Solid	Xylenes (total)	8260B	1.3	J	ug/kg	7
002	H17-PF4(121409)-(44-45)	Solid	Acetone	8260B	77		ug/kg	8
002	H17-PF4(121409)-(44-45)	Solid	Carbon disulfide	8260B	200		ug/kg	8
002	H17-PF4(121409)-(44-45)	Solid	Chloromethane (Methyl chloride)	8260B	1.4	J	ug/kg	8
003	H17-FD3 (121409)-(34-35)	Solid	Carbon disulfide	8260B	1.1	J	ug/kg	10
003	H17-FD3 (121409)-(34-35)	Solid	Chloromethane (Methyl chloride)	8260B	2.4	J	ug/kg	10
004	H17-FD3 (121409)-(44-45)	Solid	Carbon disulfide	8260B	1.1	J	ug/kg	12
004	H17-FD3 (121409)-(44-45)	Solid	cis-1,2-Dichloroethene	8260B	1.3	J	ug/kg	12
005	H17-FD1 (121409)-(34-35)	Solid	Acetone	8260B	14		ug/kg	14
008	H17-FD2 (121409)-(44-45)	Solid	Acetone	8260B	49		ug/kg	20
008	H17-FD2 (121409)-(44-45)	Solid	Carbon disulfide	8260B	95		ug/kg	20
008	H17-FD2 (121409)-(44-45)	Solid	Chloromethane (Methyl chloride)	8260B	2.9		ug/kg	20
008	H17-FD2 (121409)-(44-45)	Solid	1,1-Dichloroethane	8260B	2.6	J	ug/kg	20
009	H17-FD2 (121509)-(41-45)	Aqueous	Benzene	8260B	0.34	J	ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	Carbon disulfide	8260B	0.72		ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	1,1-Dichloroethane	8260B	7.1		ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	1,1-Dichloroethene	8260B	2.4		ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	0.20	J	ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	1,2-Dichloropropane	8260B	0.99		ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	Ethylbenzene	8260B	1.9		ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	4-Methyl-2-pentanone	8260B	0.37	J	ug/L	22
009	H17-FD2 (121509)-(41-45)	Aqueous	Xylenes (total)	8260B	3.4		ug/L	23
010	H17-FD3 (121509)-(41-45)	Aqueous	Carbon disulfide	8260B	1.3		ug/L	24
010	H17-FD3 (121509)-(41-45)	Aqueous	1,2-Dichlorobenzene	8260B	2.2		ug/L	24
010	H17-FD3 (121509)-(41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	6.2		ug/L	24
010	H17-FD3 (121509)-(41-45)	Aqueous	Trichloroethene	8260B	1.1		ug/L	25
011	H17-FD1 (121509)-(41-45)	Aqueous	Carbon disulfide	8260B	0.61		ug/L	26
011	H17-FD1 (121509)-(41-45)	Aqueous	1,2-Dichlorobenzene	8260B	0.73		ug/L	26
011	H17-FD1 (121509)-(41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	0.87		ug/L	26
012	H17-PF4 (121509)-(41-45)	Aqueous	Acetone	8260B	4.3	J	ug/L	28
012	H17-PF4 (121509)-(41-45)	Aqueous	Carbon disulfide	8260B	0.53		ug/L	28
012	H17-PF4 (121509)-(41-45)	Aqueous	Cyclohexane	8260B	0.45	BJ	ug/L	28
012	H17-PF4 (121509)-(41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	0.37	J	ug/L	28
012	H17-PF4 (121509)-(41-45)	Aqueous	Trichloroethene	8260B	1.7		ug/L	29
013	H17-PF1 (121509)-(41-45)	Aqueous	Chloromethane (Methyl chloride)	8260B	0.32	J	ug/L	30
013	H17-PF1 (121509)-(41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	0.18	J	ug/L	30
013	H17-PF1 (121509)-(41-45)	Aqueous	Trichloroethene	8260B	2.2		ug/L	31
014	H17-AF102 (121509)-(34-	Solid	Acetone	8260B	8.1	J	ug/kg	32
014	H17-AF102 (121509)-(34-	Solid	Carbon disulfide	8260B	2.5	J	ug/kg	32
015	H17-AF102 (121509)-(44-	Solid	Carbon disulfide	8260B	16		ug/kg	34
015	H17-AF102 (121509)-(44-	Solid	Chloromethane (Methyl chloride)	8260B	1.4	J	ug/kg	34
015	H17-AF102 (121509)-(44-	Solid	Carbon disulfide	8260B	35	H	ug/kg	36

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
016	H17-AF102 (121509)-(41-	Aqueous	Acetone	8260B	6.9	J	ug/L	38
016	H17-AF102 (121509)-(41-	Aqueous	Carbon disulfide	8260B	0.37	J	ug/L	38
017	H17-AF103 (121509)-(41-	Aqueous	Acetone	8260B	3.2	J	ug/L	40
017	H17-AF103 (121509)-(41-	Aqueous	Carbon disulfide	8260B	0.36	J	ug/L	40
017	H17-AF103 (121509)-(41-	Aqueous	trans-1,3-Dichloropropene	8260B	2.6		ug/L	40
017	H17-AF103 (121509)-(41-	Aqueous	cis-1,3-Dichloropropene	8260B	2.0		ug/L	40
017	H17-AF103 (121509)-(41-	Aqueous	4-Methyl-2-pentanone	8260B	0.78	J	ug/L	40

(52 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-001
Description: H17-PF4 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 0930
% Solids: 78.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1959	RRH		24386	13.92

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		9.2	3.1	ug/kg	1
Benzene	71-43-2	8260B	ND		2.3	0.50	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.3	0.78	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.3	0.32	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.3	0.82	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.6	1.1	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		2.3	0.60	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.3	0.82	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.3	0.78	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.3	0.60	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.3	0.38	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	0.88	J	2.3	0.46	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.3	0.31	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.3	0.69	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.3	0.78	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.3	0.39	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.3	0.78	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.3	0.78	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.3	0.78	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.3	0.73	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.3	0.33	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.3	0.46	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.3	0.78	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.3	0.35	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.3	0.69	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.3	0.42	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.3	0.31	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.3	0.38	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.3	0.78	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.6	0.60	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.3	0.37	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.3	0.31	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.3	0.18	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.6	0.69	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.3	0.28	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.3	1.2	ug/kg	1
Styrene	100-42-5	8260B	ND		2.3	0.50	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.3	0.22	ug/kg	1
Tetrachloroethene	127-18-4	8260B	2.4		2.3	1.1	ug/kg	1
Toluene	108-88-3	8260B	0.97	J	2.3	0.78	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.3	0.96	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.3	0.78	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.3	0.39	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.3	0.36	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-001
Description: H17-PF4 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 0930
% Solids: 78.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1959	RRH		24386	13.92

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.3	0.87	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.3	0.69	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.3	0.39	ug/kg	1
Xylenes (total)	1330-20-7	8260B	1.3	J	2.3	1.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		72	53-142
Bromofluorobenzene		91	47-138
Toluene-d8		86	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-002
Description: H17-PF4(121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 0935
% Solids: 82.6 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1347	RRH		24386	9.47

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	77		13	4.3	ug/kg	1
Benzene	71-43-2	8260B	ND		3.2	0.70	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.2	1.1	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.2	0.45	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.2	1.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.4	1.5	ug/kg	1
Carbon disulfide	75-15-0	8260B	200		3.2	0.83	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.2	1.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.2	1.1	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.2	0.83	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.2	0.53	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	1.4	J	3.2	0.64	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.2	0.43	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.2	0.96	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.2	1.1	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.2	0.54	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.2	1.1	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.2	1.1	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.2	1.1	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.2	1.0	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.2	0.47	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.2	0.64	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.2	1.1	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.2	0.49	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.2	0.96	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.2	0.58	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.2	0.43	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.2	0.52	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.2	1.1	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.4	0.83	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.2	0.51	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.2	0.43	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.2	0.26	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.4	0.96	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.2	0.39	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.2	1.7	ug/kg	1
Styrene	100-42-5	8260B	ND		3.2	0.70	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.2	0.30	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.2	1.5	ug/kg	1
Toluene	108-88-3	8260B	ND		3.2	1.1	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.2	1.3	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.2	1.1	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.2	0.54	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.2	0.50	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-002
Description: H17-PF4(121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 0935
% Solids: 82.6 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1347	RRH		24386	9.47

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.2	1.2	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.2	0.96	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.2	0.55	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.2	1.9	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		73	53-142
Bromofluorobenzene		90	47-138
Toluene-d8		85	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-003
Description: H17-FD3 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 1415
% Solids: 80.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1410	RRH		24386	8.82

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		14	4.7	ug/kg	1
Benzene	71-43-2	8260B	ND		3.5	0.78	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.5	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.5	0.49	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.5	1.3	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.1	1.7	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.1	J	3.5	0.92	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.5	1.3	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.5	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.5	0.92	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.5	0.59	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	2.4	J	3.5	0.71	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.5	0.48	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.5	1.1	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.5	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.5	0.60	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.5	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.5	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.5	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.5	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.5	0.52	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.5	0.71	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.5	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.5	0.54	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.5	1.1	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.5	0.64	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.5	0.48	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.5	0.58	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.5	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.1	0.92	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.5	0.56	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.5	0.47	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.5	0.28	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.1	1.1	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.5	0.43	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.5	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.5	0.78	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.5	0.33	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.5	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.5	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.5	1.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.5	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.5	0.60	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.5	0.56	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-003
Description: H17-FD3 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 1415
% Solids: 80.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1410	RRH		24386	8.82

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.5	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.5	1.1	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.5	0.61	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.5	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		70	53-142
Bromofluorobenzene		87	47-138
Toluene-d8		81	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-004
Description: H17-FD3 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1420
% Solids: 79.2 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1957	DLB		23963	7.73

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		16	5.5	ug/kg	1
Benzene	71-43-2	8260B	ND		4.1	0.90	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		4.1	1.4	ug/kg	1
Bromoform	75-25-2	8260B	ND		4.1	0.57	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		4.1	1.5	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		8.2	2.0	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.1	J	4.1	1.1	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		4.1	1.5	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		4.1	1.4	ug/kg	1
Chloroethane	75-00-3	8260B	ND		4.1	1.1	ug/kg	1
Chloroform	67-66-3	8260B	ND		4.1	0.68	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		4.1	0.82	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		4.1	0.55	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		4.1	1.2	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		4.1	1.4	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		4.1	0.69	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		4.1	1.4	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		4.1	1.4	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		4.1	1.4	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		4.1	1.3	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		4.1	0.60	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		4.1	0.82	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		4.1	1.4	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	1.3	J	4.1	0.62	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		4.1	1.2	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		4.1	0.74	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		4.1	0.56	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		4.1	0.67	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		4.1	1.4	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		8.2	1.1	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		4.1	0.65	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		4.1	0.55	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		4.1	0.33	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		8.2	1.2	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		4.1	0.50	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		4.1	2.1	ug/kg	1
Styrene	100-42-5	8260B	ND		4.1	0.90	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		4.1	0.38	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		4.1	1.9	ug/kg	1
Toluene	108-88-3	8260B	ND		4.1	1.4	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		4.1	1.7	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		4.1	1.4	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		4.1	0.69	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		4.1	0.64	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-004
Description: H17-FD3 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1420
% Solids: 79.2 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 1957	DLB		23963	7.73

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		4.1	1.6	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		4.1	1.2	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		4.1	0.70	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		4.1	2.4	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	53-142
Bromofluorobenzene		103	47-138
Toluene-d8		105	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-005
Description: H17-FD1 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 1100
% Solids: 78.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2021	DLB		23963	9.02

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	14		14	4.7	ug/kg	1
Benzene	71-43-2	8260B	ND		3.5	0.78	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.5	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.5	0.49	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.5	1.3	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.1	1.7	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		3.5	0.92	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.5	1.3	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.5	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.5	0.92	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.5	0.59	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.5	0.71	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.5	0.48	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.5	1.1	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.5	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.5	0.60	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.5	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.5	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.5	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.5	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.5	0.52	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.5	0.71	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.5	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.5	0.54	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.5	1.1	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.5	0.64	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.5	0.48	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.5	0.58	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.5	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.1	0.92	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.5	0.57	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.5	0.47	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.5	0.28	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.1	1.1	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.5	0.43	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.5	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.5	0.78	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.5	0.33	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.5	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.5	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.5	1.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.5	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.5	0.60	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.5	0.56	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-005
Description: H17-FD1 (121409)-(34-35)
Matrix: Solid
Date Sampled: 12/14/2009 1100
% Solids: 78.4 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2021	DLB		23963	9.02

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.5	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.5	1.1	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.5	0.61	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.5	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	53-142
Bromofluorobenzene		108	47-138
Toluene-d8		112	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-006
Description: H17-FD1 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1105
% Solids: 78.3 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2045	DLB		23963	9.62

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		13	4.4	ug/kg	1
Benzene	71-43-2	8260B	ND		3.3	0.73	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.3	1.1	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.3	0.46	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.3	1.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.6	1.6	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		3.3	0.86	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.3	1.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.3	1.1	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.3	0.86	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.3	0.55	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.3	0.66	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.3	0.45	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.3	1.0	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.3	1.1	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.3	0.56	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.3	1.1	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.3	1.1	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.3	1.1	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.3	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.3	0.48	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.3	0.66	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.3	1.1	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.3	0.50	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.3	1.0	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.3	0.60	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.3	0.45	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.3	0.54	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.3	1.1	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.6	0.86	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.3	0.53	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.3	0.44	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.3	0.27	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.6	1.0	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.3	0.40	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.3	1.7	ug/kg	1
Styrene	100-42-5	8260B	ND		3.3	0.73	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.3	0.31	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.3	1.5	ug/kg	1
Toluene	108-88-3	8260B	ND		3.3	1.1	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.3	1.4	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.3	1.1	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.3	0.56	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.3	0.52	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-006
Description: H17-FD1 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1105
% Solids: 78.3 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2045	DLB		23963	9.62

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.3	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.3	1.0	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.3	0.57	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.3	1.9	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	53-142
Bromofluorobenzene		105	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-007
Description: H17-FD2 (121409)-(34-45)
Matrix: Solid
Date Sampled: 12/14/2009 1600
% Solids: 82.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2108	DLB		23963	12.32

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		9.8	3.3	ug/kg	1
Benzene	71-43-2	8260B	ND		2.5	0.54	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.5	0.83	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.5	0.34	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.5	0.88	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.9	1.2	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		2.5	0.64	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.5	0.88	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.5	0.83	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.5	0.64	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.5	0.41	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.5	0.49	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.5	0.33	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.5	0.74	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.5	0.83	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.5	0.42	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.5	0.83	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.5	0.83	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.5	0.83	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.5	0.79	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.5	0.36	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.5	0.49	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.5	0.83	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.5	0.37	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.5	0.74	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.5	0.45	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.5	0.33	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.5	0.40	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.5	0.83	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.9	0.64	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.5	0.39	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.5	0.33	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.5	0.20	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.9	0.74	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.5	0.30	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.5	1.3	ug/kg	1
Styrene	100-42-5	8260B	ND		2.5	0.54	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.5	0.23	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.5	1.1	ug/kg	1
Toluene	108-88-3	8260B	ND		2.5	0.83	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.5	1.0	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.5	0.83	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.5	0.42	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.5	0.39	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-007
Description: H17-FD2 (121409)-(34-45)
Matrix: Solid
Date Sampled: 12/14/2009 1600
% Solids: 82.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2108	DLB		23963	12.32

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.5	0.93	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.5	0.74	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.5	0.42	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.5	1.4	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	53-142
Bromofluorobenzene		103	47-138
Toluene-d8		110	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-008
Description: H17-FD2 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1605
% Solids: 79.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1433	RRH		24386	11.48

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	49		11	3.7	ug/kg	1
Benzene	71-43-2	8260B	ND		2.7	0.60	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.7	0.93	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.7	0.38	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.7	0.98	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.5	1.3	ug/kg	1
Carbon disulfide	75-15-0	8260B	95		2.7	0.71	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.7	0.98	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.7	0.93	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.7	0.71	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.7	0.45	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	2.9		2.7	0.55	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.7	0.37	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.7	0.82	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.7	0.93	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.7	0.46	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.7	0.93	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.7	0.93	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.7	0.93	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.7	0.87	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	2.6	J	2.7	0.40	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.7	0.55	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.7	0.93	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.7	0.42	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.7	0.82	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.7	0.50	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.7	0.37	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.7	0.45	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.7	0.93	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.5	0.71	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.7	0.44	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.7	0.37	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.7	0.22	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.5	0.82	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.7	0.33	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.7	1.4	ug/kg	1
Styrene	100-42-5	8260B	ND		2.7	0.60	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.7	0.26	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.7	1.3	ug/kg	1
Toluene	108-88-3	8260B	ND		2.7	0.93	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.7	1.1	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.7	0.93	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.7	0.46	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.7	0.43	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-008
Description: H17-FD2 (121409)-(44-45)
Matrix: Solid
Date Sampled: 12/14/2009 1605
% Solids: 79.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/28/2009 1433	RRH		24386	11.48

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.7	1.0	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.7	0.82	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.7	0.47	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.7	1.6	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		68	53-142
Bromofluorobenzene		86	47-138
Toluene-d8		80	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-009
Description: H17-FD2 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0745
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1314	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	0.34	J	0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.72		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	7.1		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	2.4		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.20	J	0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	0.99		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	1.9		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	0.37	J	10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-009
Description: H17-FD2 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0745
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1314	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	3.4		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Bromofluorobenzene		111	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-010
Description: H17-FD3 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0830
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1335	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	1.3		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	2.2		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	6.2		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-010
Description: H17-FD3 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0830
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1335	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	1.1		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130
Bromofluorobenzene		113	70-130
Toluene-d8		114	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-011
Description: H17-FD1 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0915
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1357	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.61		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	0.73		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.87		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-011
Description: H17-FD1 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0915
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1357	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-012
Description: H17-PF4 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0945
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0321	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	4.3	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.53		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	0.45	BJ	0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.37	J	0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-012
Description: H17-PF4 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 0945
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0321	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	1.7		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-013
Description: H17-PF1 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1045
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1418	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	0.32	J	0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.18	J	0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-013
Description: H17-PF1 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1045
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/24/2009 1418	RRH		24397

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	2.2		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		113	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-014
Description: H17-AF102 (121509)-(34-35)
Matrix: Solid
Date Sampled: 12/15/2009 1500
% Solids: 73.3 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1931	LBS		24377	10.63

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	8.1	J	13	4.3	ug/kg	1
Benzene	71-43-2	8260B	ND		3.2	0.71	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.2	1.1	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.2	0.45	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.2	1.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.4	1.5	ug/kg	1
Carbon disulfide	75-15-0	8260B	2.5	J	3.2	0.83	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.2	1.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.2	1.1	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.2	0.83	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.2	0.53	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.2	0.64	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.2	0.43	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.2	0.96	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.2	1.1	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.2	0.55	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.2	1.1	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.2	1.1	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.2	1.1	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.2	1.0	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.2	0.47	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.2	0.64	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.2	1.1	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.2	0.49	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.2	0.96	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.2	0.58	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.2	0.44	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.2	0.53	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.2	1.1	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.4	0.83	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.2	0.51	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.2	0.43	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.2	0.26	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.4	0.96	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.2	0.39	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.2	1.7	ug/kg	1
Styrene	100-42-5	8260B	ND		3.2	0.71	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.2	0.30	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.2	1.5	ug/kg	1
Toluene	108-88-3	8260B	ND		3.2	1.1	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.2	1.3	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.2	1.1	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.2	0.55	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.2	0.51	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-014
Description: H17-AF102 (121509)-(34-35)
Matrix: Solid
Date Sampled: 12/15/2009 1500
% Solids: 73.3 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1931	LBS		24377	10.63

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.2	1.2	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.2	0.96	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.2	0.55	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.2	1.9	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	53-142
Bromofluorobenzene		85	47-138
Toluene-d8		81	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-015
Description: H17-AF102 (121509)-(44-45)
Matrix: Solid
Date Sampled: 12/15/2009 1505
% Solids: 74.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1954	LBS		24377	9.87
2	5035	8260B	1	12/31/2009 0128	MZ		24599	13.37

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		14	4.5	ug/kg	1
Benzene	71-43-2	8260B	ND		3.4	0.75	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.4	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.4	0.47	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.4	1.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.8	1.6	ug/kg	1
Carbon disulfide	75-15-0	8260B	16		3.4	0.88	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.4	1.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.4	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.4	0.88	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.4	0.56	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	1.4	J	3.4	0.68	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.4	0.46	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.4	1.0	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.4	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.4	0.58	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.4	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.4	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.4	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.4	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.4	0.50	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.4	0.68	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.4	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.4	0.52	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.4	1.0	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.4	0.62	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.4	0.46	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.4	0.56	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.4	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.8	0.88	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.4	0.54	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.4	0.45	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.4	0.27	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.8	1.0	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.4	0.41	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.4	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.4	0.75	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.4	0.32	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.4	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.4	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.4	1.4	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.4	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.4	0.58	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-015
Description: H17-AF102 (121509)-(44-45)
Matrix: Solid
Date Sampled: 12/15/2009 1505
% Solids: 74.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1954	LBS		24377	9.87
2	5035	8260B	1	12/31/2009 0128	MZ		24599	13.37

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.4	0.54	ug/kg	1
Trichloroethene	79-01-6	8260B	ND		3.4	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.4	1.0	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.4	0.58	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.4	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		73	53-142	H	71	53-142
Bromofluorobenzene		76	47-138	H	80	47-138
Toluene-d8		78	68-124	H	78	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-015
Description: H17-AF102 (121509)-(44-45)
Matrix: Solid
Date Sampled: 12/15/2009 1505
% Solids: 74.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1954	LBS		24377	9.87
2	5035	8260B	1	12/31/2009 0128	MZ		24599	13.37

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	10	3.4	ug/kg	2
Benzene	71-43-2	8260B	ND	H	2.5	0.55	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND	H	2.5	0.85	ug/kg	2
Bromoform	75-25-2	8260B	ND	H	2.5	0.35	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	2.5	0.90	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND	H	5.0	1.2	ug/kg	2
Carbon disulfide	75-15-0	8260B	35	H	2.5	0.65	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND	H	2.5	0.90	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND	H	2.5	0.85	ug/kg	2
Chloroethane	75-00-3	8260B	ND	H	2.5	0.65	ug/kg	2
Chloroform	67-66-3	8260B	ND	H	2.5	0.42	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	2.5	0.50	ug/kg	2
Cyclohexane	110-82-7	8260B	ND	H	2.5	0.34	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	2.5	0.75	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND	H	2.5	0.85	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	2.5	0.43	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	2.5	0.85	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	2.5	0.85	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	2.5	0.85	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND	H	2.5	0.80	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND	H	2.5	0.37	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND	H	2.5	0.50	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND	H	2.5	0.85	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	2.5	0.38	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	2.5	0.75	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND	H	2.5	0.46	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	2.5	0.34	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	2.5	0.41	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND	H	2.5	0.85	ug/kg	2
2-Hexanone	591-78-6	8260B	ND	H	5.0	0.65	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND	H	2.5	0.40	ug/kg	2
Methyl acetate	79-20-9	8260B	ND	H	2.5	0.34	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	2.5	0.20	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	5.0	0.75	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND	H	2.5	0.31	ug/kg	2
Methylene chloride	75-09-2	8260B	ND	H	2.5	1.3	ug/kg	2
Styrene	100-42-5	8260B	ND	H	2.5	0.55	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	2.5	0.24	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND	H	2.5	1.2	ug/kg	2
Toluene	108-88-3	8260B	ND	H	2.5	0.85	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	2.5	1.1	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	2.5	0.85	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	2.5	0.43	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-015
Description: H17-AF102 (121509)-(44-45)
Matrix: Solid
Date Sampled: 12/15/2009 1505
% Solids: 74.7 12/16/2009 1950
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1954	LBS		24377	9.87
2	5035	8260B	1	12/31/2009 0128	MZ		24599	13.37

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	2.5	0.40	ug/kg	2
Trichloroethene	79-01-6	8260B	ND	H	2.5	0.95	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND	H	2.5	0.75	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND	H	2.5	0.43	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND	H	2.5	1.5	ug/kg	2

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		73	53-142	H	71	53-142
Bromofluorobenzene		76	47-138	H	80	47-138
Toluene-d8		78	68-124	H	78	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-016
Description: H17-AF102 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1520
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0343	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	6.9	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.37	J	0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-016
Description: H17-AF102 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1520
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0343	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-017
Description: H17-AF103 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1610
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0405	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	3.2	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.36	J	0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	2.6		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	2.0		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	0.78	J	10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-017
Description: H17-AF103 (121509)-(41-45)
Matrix: Aqueous
Date Sampled: 12/15/2009 1610
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0405	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		100	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-018
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 12/16/2009 0840
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0427	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL16030-018
Description: TRIP BLANK
Matrix: Aqueous
Date Sampled: 12/16/2009 0840
Date Received: 12/16/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/29/2009 0427	RRH		24457

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/19/2009 1824
Benzene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Bromoform	ND		1	5.0	0.70	ug/kg	12/19/2009 1824
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/19/2009 1824
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Chloroethane	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Chloroform	ND		1	5.0	0.83	ug/kg	12/19/2009 1824
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/19/2009 1824
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/19/2009 1824
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/19/2009 1824
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/19/2009 1824
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/19/2009 1824
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/19/2009 1824
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
2-Hexanone	ND		1	10	1.3	ug/kg	12/19/2009 1824
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/19/2009 1824
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/19/2009 1824
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/19/2009 1824
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/19/2009 1824
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/19/2009 1824
Styrene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/19/2009 1824
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/19/2009 1824
Toluene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/19/2009 1824
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/19/2009 1824

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/19/2009 1824
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/19/2009 1824
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/19/2009 1824

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	47-138
1,2-Dichloroethane-d4		92	53-142
Toluene-d8		107	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	123	42-149	12/19/2009 1627
Benzene	50	55		1	110	69-123	12/19/2009 1627
Bromodichloromethane	50	58		1	116	69-121	12/19/2009 1627
Bromoform	50	54		1	109	61-119	12/19/2009 1627
Bromomethane (Methyl bromide)	50	46		1	91	35-144	12/19/2009 1627
2-Butanone (MEK)	100	120		1	120	57-148	12/19/2009 1627
Carbon disulfide	50	58		1	115	58-122	12/19/2009 1627
Carbon tetrachloride	50	59		1	118	58-136	12/19/2009 1627
Chlorobenzene	50	56		1	112	59-129	12/19/2009 1627
Chloroethane	50	51		1	102	50-132	12/19/2009 1627
Chloroform	50	55		1	110	71-125	12/19/2009 1627
Chloromethane (Methyl chloride)	50	46		1	93	34-134	12/19/2009 1627
Cyclohexane	50	58		1	116	53-139	12/19/2009 1627
1,2-Dibromo-3-chloropropane (DBCP)	50	63		1	125	55-125	12/19/2009 1627
Dibromochloromethane	50	55		1	110	66-119	12/19/2009 1627
1,2-Dibromoethane (EDB)	50	57		1	114	74-124	12/19/2009 1627
1,2-Dichlorobenzene	50	60		1	119	57-131	12/19/2009 1627
1,4-Dichlorobenzene	50	61		1	121	52-133	12/19/2009 1627
1,3-Dichlorobenzene	50	61		1	122	51-134	12/19/2009 1627
Dichlorodifluoromethane	50	49		1	98	10-157	12/19/2009 1627
1,2-Dichloroethane	50	55		1	109	67-129	12/19/2009 1627
1,1-Dichloroethane	50	54		1	108	71-127	12/19/2009 1627
1,1-Dichloroethene	50	57		1	114	69-138	12/19/2009 1627
cis-1,2-Dichloroethene	50	56		1	112	70-122	12/19/2009 1627
trans-1,2-Dichloroethene	50	56		1	112	68-131	12/19/2009 1627
1,2-Dichloropropane	50	55		1	111	72-124	12/19/2009 1627
trans-1,3-Dichloropropene	50	55		1	110	70-124	12/19/2009 1627
cis-1,3-Dichloropropene	50	54		1	108	70-126	12/19/2009 1627
Ethylbenzene	50	62		1	123	59-128	12/19/2009 1627
2-Hexanone	100	120		1	117	54-137	12/19/2009 1627
Isopropylbenzene	50	60		1	120	50-136	12/19/2009 1627
Methyl acetate	50	49		1	98	59-137	12/19/2009 1627
Methyl tertiary butyl ether (MTBE)	50	58		1	117	72-122	12/19/2009 1627
4-Methyl-2-pentanone	100	110		1	112	60-134	12/19/2009 1627
Methylcyclohexane	50	61		1	121	41-144	12/19/2009 1627
Methylene chloride	50	53		1	105	77-129	12/19/2009 1627
Styrene	50	57		1	113	54-136	12/19/2009 1627
1,1,2,2-Tetrachloroethane	50	59		1	118	69-132	12/19/2009 1627
Tetrachloroethene	50	59		1	119	70-130	12/19/2009 1627
Toluene	50	59		1	118	61-129	12/19/2009 1627
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	110	49-136	12/19/2009 1627
1,2,4-Trichlorobenzene	50	69		1	137	34-145	12/19/2009 1627
1,1,1-Trichloroethane	50	57		1	113	63-128	12/19/2009 1627
1,1,2-Trichloroethane	50	56		1	112	55-128	12/19/2009 1627

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	57		1	113	62-126	12/19/2009 1627
Trichlorofluoromethane	50	56		1	112	45-138	12/19/2009 1627
Vinyl chloride	50	52		1	103	42-132	12/19/2009 1627
Xylenes (total)	100	120		1	115	58-128	12/19/2009 1627

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		126	47-138
1,2-Dichloroethane-d4		97	53-142
Toluene-d8		117	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	118	4.0	42-149	20	12/19/2009 1650
Benzene	50	49		1	98	11	69-123	20	12/19/2009 1650
Bromodichloromethane	50	55		1	109	5.5	69-121	20	12/19/2009 1650
Bromoform	50	54		1	107	1.6	61-119	20	12/19/2009 1650
Bromomethane (Methyl bromide)	50	43		1	86	5.8	35-144	20	12/19/2009 1650
2-Butanone (MEK)	100	120		1	120	0.13	57-148	20	12/19/2009 1650
Carbon disulfide	50	50		1	100	14	58-122	20	12/19/2009 1650
Carbon tetrachloride	50	52		1	105	12	58-136	20	12/19/2009 1650
Chlorobenzene	50	53		1	106	6.1	59-129	20	12/19/2009 1650
Chloroethane	50	44		1	88	14	50-132	20	12/19/2009 1650
Chloroform	50	51		1	103	6.9	71-125	20	12/19/2009 1650
Chloromethane (Methyl chloride)	50	41		1	81	13	34-134	20	12/19/2009 1650
Cyclohexane	50	50		1	100	15	53-139	20	12/19/2009 1650
1,2-Dibromo-3-chloropropane (DBCP)	50	61		1	123	2.1	55-125	20	12/19/2009 1650
Dibromochloromethane	50	54		1	107	2.4	66-119	20	12/19/2009 1650
1,2-Dibromoethane (EDB)	50	56		1	112	2.5	74-124	20	12/19/2009 1650
1,2-Dichlorobenzene	50	56		1	111	6.8	57-131	20	12/19/2009 1650
1,4-Dichlorobenzene	50	56		1	111	8.5	52-133	20	12/19/2009 1650
1,3-Dichlorobenzene	50	56		1	111	9.4	51-134	20	12/19/2009 1650
Dichlorodifluoromethane	50	42		1	83	16	10-157	20	12/19/2009 1650
1,2-Dichloroethane	50	53		1	106	3.2	67-129	20	12/19/2009 1650
1,1-Dichloroethane	50	49		1	99	9.2	71-127	20	12/19/2009 1650
1,1-Dichloroethene	50	50		1	100	13	69-138	20	12/19/2009 1650
cis-1,2-Dichloroethene	50	52		1	103	8.2	70-122	20	12/19/2009 1650
trans-1,2-Dichloroethene	50	50		1	99	12	68-131	20	12/19/2009 1650
1,2-Dichloropropane	50	51		1	102	8.0	72-124	20	12/19/2009 1650
trans-1,3-Dichloropropene	50	54		1	109	1.1	70-124	20	12/19/2009 1650
cis-1,3-Dichloropropene	50	52		1	104	4.1	70-126	20	12/19/2009 1650
Ethylbenzene	50	56		1	111	10	59-128	20	12/19/2009 1650
2-Hexanone	100	120		1	118	0.90	54-137	20	12/19/2009 1650
Isopropylbenzene	50	54		1	107	11	50-136	20	12/19/2009 1650
Methyl acetate	50	50		1	99	0.92	59-137	20	12/19/2009 1650
Methyl tertiary butyl ether (MTBE)	50	57		1	115	1.5	72-122	20	12/19/2009 1650
4-Methyl-2-pentanone	100	110		1	112	0.52	60-134	20	12/19/2009 1650
Methylcyclohexane	50	52		1	103	16	41-144	20	12/19/2009 1650
Methylene chloride	50	49		1	97	7.7	77-129	20	12/19/2009 1650
Styrene	50	53		1	106	7.0	54-136	20	12/19/2009 1650
1,1,2,2-Tetrachloroethane	50	58		1	115	2.3	69-132	20	12/19/2009 1650
Tetrachloroethene	50	53		1	106	11	70-130	20	12/19/2009 1650
Toluene	50	54		1	107	9.4	61-129	20	12/19/2009 1650
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	48		1	95	14	49-136	20	12/19/2009 1650
1,2,4-Trichlorobenzene	50	62		1	123	11	34-145	20	12/19/2009 1650
1,1,1-Trichloroethane	50	50		1	101	12	63-128	20	12/19/2009 1650
1,1,2-Trichloroethane	50	55		1	109	2.3	55-128	20	12/19/2009 1650

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	50		1	100	12	62-126	20	12/19/2009 1650
Trichlorofluoromethane	50	48		1	96	16	45-138	20	12/19/2009 1650
Vinyl chloride	50	41	+	1	83	22	42-132	20	12/19/2009 1650
Xylenes (total)	100	100		1	105	9.3	58-128	20	12/19/2009 1650

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		125	47-138
1,2-Dichloroethane-d4		96	53-142
Toluene-d8		115	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24377-001
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/29/2009 1159
Benzene	ND		1	5.0	1.1	ug/kg	12/29/2009 1159
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Bromoform	ND		1	5.0	0.70	ug/kg	12/29/2009 1159
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/29/2009 1159
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/29/2009 1159
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/29/2009 1159
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/29/2009 1159
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Chloroethane	ND		1	5.0	1.3	ug/kg	12/29/2009 1159
Chloroform	ND		1	5.0	0.83	ug/kg	12/29/2009 1159
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/29/2009 1159
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/29/2009 1159
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/29/2009 1159
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/29/2009 1159
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/29/2009 1159
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/29/2009 1159
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/29/2009 1159
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/29/2009 1159
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/29/2009 1159
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/29/2009 1159
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
2-Hexanone	ND		1	10	1.3	ug/kg	12/29/2009 1159
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/29/2009 1159
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/29/2009 1159
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/29/2009 1159
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/29/2009 1159
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/29/2009 1159
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/29/2009 1159
Styrene	ND		1	5.0	1.1	ug/kg	12/29/2009 1159
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/29/2009 1159
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/29/2009 1159
Toluene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/29/2009 1159
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/29/2009 1159
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/29/2009 1159

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24377-001
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/29/2009 1159
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/29/2009 1159
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/29/2009 1159

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		85	47-138
1,2-Dichloroethane-d4		67	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24377-002
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	96		1	96	42-149	12/29/2009 1026
Benzene	50	53		1	106	69-123	12/29/2009 1026
Bromodichloromethane	50	54		1	107	69-121	12/29/2009 1026
Bromoform	50	52		1	104	61-119	12/29/2009 1026
Bromomethane (Methyl bromide)	50	54		1	108	35-144	12/29/2009 1026
2-Butanone (MEK)	100	90		1	90	57-148	12/29/2009 1026
Carbon disulfide	50	56		1	111	58-122	12/29/2009 1026
Carbon tetrachloride	50	54		1	109	58-136	12/29/2009 1026
Chlorobenzene	50	55		1	110	59-129	12/29/2009 1026
Chloroethane	50	54		1	108	50-132	12/29/2009 1026
Chloroform	50	54		1	107	71-125	12/29/2009 1026
Chloromethane (Methyl chloride)	50	56		1	112	34-134	12/29/2009 1026
Cyclohexane	50	55		1	109	53-139	12/29/2009 1026
1,2-Dibromo-3-chloropropane (DBCP)	50	55		1	111	55-125	12/29/2009 1026
Dibromochloromethane	50	52		1	104	66-119	12/29/2009 1026
1,2-Dibromoethane (EDB)	50	54		1	108	74-124	12/29/2009 1026
1,4-Dichlorobenzene	50	59		1	117	52-133	12/29/2009 1026
1,3-Dichlorobenzene	50	59		1	117	51-134	12/29/2009 1026
1,2-Dichlorobenzene	50	58		1	116	57-131	12/29/2009 1026
Dichlorodifluoromethane	50	70		1	139	10-157	12/29/2009 1026
1,2-Dichloroethane	50	51		1	102	67-129	12/29/2009 1026
1,1-Dichloroethane	50	52		1	105	71-127	12/29/2009 1026
trans-1,2-Dichloroethene	50	54		1	108	68-131	12/29/2009 1026
cis-1,2-Dichloroethene	50	53		1	106	70-122	12/29/2009 1026
1,1-Dichloroethene	50	54		1	108	69-138	12/29/2009 1026
1,2-Dichloropropane	50	52		1	104	72-124	12/29/2009 1026
trans-1,3-Dichloropropene	50	53		1	105	70-124	12/29/2009 1026
cis-1,3-Dichloropropene	50	51		1	102	70-126	12/29/2009 1026
Ethylbenzene	50	57		1	114	59-128	12/29/2009 1026
2-Hexanone	100	97		1	97	54-137	12/29/2009 1026
Isopropylbenzene	50	58		1	116	50-136	12/29/2009 1026
Methyl acetate	50	43		1	86	59-137	12/29/2009 1026
Methyl tertiary butyl ether (MTBE)	50	52		1	103	72-122	12/29/2009 1026
4-Methyl-2-pentanone	100	98		1	98	60-134	12/29/2009 1026
Methylcyclohexane	50	53		1	106	41-144	12/29/2009 1026
Methylene chloride	50	51		1	103	77-129	12/29/2009 1026
Styrene	50	54		1	109	54-136	12/29/2009 1026
1,1,2,2-Tetrachloroethane	50	57		1	114	69-132	12/29/2009 1026
Tetrachloroethene	50	55		1	110	70-130	12/29/2009 1026
Toluene	50	55		1	109	61-129	12/29/2009 1026
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	51		1	103	49-136	12/29/2009 1026
1,2,4-Trichlorobenzene	50	61		1	122	34-145	12/29/2009 1026
1,1,2-Trichloroethane	50	53		1	106	55-128	12/29/2009 1026
1,1,1-Trichloroethane	50	54		1	107	63-128	12/29/2009 1026

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24377-002
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	54		1	108	62-126	12/29/2009 1026
Trichlorofluoromethane	50	56		1	112	45-138	12/29/2009 1026
Vinyl chloride	50	57		1	113	42-132	12/29/2009 1026
Xylenes (total)	100	110		1	113	58-128	12/29/2009 1026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	47-138
1,2-Dichloroethane-d4		70	53-142
Toluene-d8		86	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24377-003
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	88		1	88	8.6	42-149	20	12/29/2009 1049
Benzene	50	52		1	105	0.56	69-123	20	12/29/2009 1049
Bromodichloromethane	50	55		1	109	1.7	69-121	20	12/29/2009 1049
Bromoform	50	52		1	104	0.14	61-119	20	12/29/2009 1049
Bromomethane (Methyl bromide)	50	52		1	104	3.4	35-144	20	12/29/2009 1049
2-Butanone (MEK)	100	90		1	90	0.21	57-148	20	12/29/2009 1049
Carbon disulfide	50	54		1	109	2.2	58-122	20	12/29/2009 1049
Carbon tetrachloride	50	54		1	107	1.4	58-136	20	12/29/2009 1049
Chlorobenzene	50	55		1	109	0.65	59-129	20	12/29/2009 1049
Chloroethane	50	51		1	102	5.6	50-132	20	12/29/2009 1049
Chloroform	50	53		1	105	1.5	71-125	20	12/29/2009 1049
Chloromethane (Methyl chloride)	50	53		1	105	6.4	34-134	20	12/29/2009 1049
Cyclohexane	50	53		1	107	2.0	53-139	20	12/29/2009 1049
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	116	4.6	55-125	20	12/29/2009 1049
Dibromochloromethane	50	52		1	104	0.28	66-119	20	12/29/2009 1049
1,2-Dibromoethane (EDB)	50	53		1	107	0.72	74-124	20	12/29/2009 1049
1,4-Dichlorobenzene	50	57		1	115	2.0	52-133	20	12/29/2009 1049
1,3-Dichlorobenzene	50	58		1	117	0.23	51-134	20	12/29/2009 1049
1,2-Dichlorobenzene	50	58		1	115	0.51	57-131	20	12/29/2009 1049
Dichlorodifluoromethane	50	68		1	136	2.7	10-157	20	12/29/2009 1049
1,2-Dichloroethane	50	51		1	102	0.57	67-129	20	12/29/2009 1049
1,1-Dichloroethane	50	52		1	104	1.2	71-127	20	12/29/2009 1049
trans-1,2-Dichloroethene	50	53		1	107	1.2	68-131	20	12/29/2009 1049
cis-1,2-Dichloroethene	50	53		1	106	0.63	70-122	20	12/29/2009 1049
1,1-Dichloroethene	50	52		1	105	2.9	69-138	20	12/29/2009 1049
1,2-Dichloropropane	50	52		1	105	0.82	72-124	20	12/29/2009 1049
trans-1,3-Dichloropropene	50	52		1	104	1.3	70-124	20	12/29/2009 1049
cis-1,3-Dichloropropene	50	52		1	104	1.3	70-126	20	12/29/2009 1049
Ethylbenzene	50	56		1	113	1.6	59-128	20	12/29/2009 1049
2-Hexanone	100	100		1	100	3.0	54-137	20	12/29/2009 1049
Isopropylbenzene	50	58		1	115	1.1	50-136	20	12/29/2009 1049
Methyl acetate	50	44		1	87	1.2	59-137	20	12/29/2009 1049
Methyl tertiary butyl ether (MTBE)	50	52		1	104	0.95	72-122	20	12/29/2009 1049
4-Methyl-2-pentanone	100	99		1	99	0.46	60-134	20	12/29/2009 1049
Methylcyclohexane	50	53		1	106	0.24	41-144	20	12/29/2009 1049
Methylene chloride	50	52		1	103	0.54	77-129	20	12/29/2009 1049
Styrene	50	54		1	108	0.51	54-136	20	12/29/2009 1049
1,1,2,2-Tetrachloroethane	50	57		1	115	0.78	69-132	20	12/29/2009 1049
Tetrachloroethene	50	54		1	107	2.1	70-130	20	12/29/2009 1049
Toluene	50	54		1	108	1.2	61-129	20	12/29/2009 1049
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	99	4.1	49-136	20	12/29/2009 1049
1,2,4-Trichlorobenzene	50	62		1	124	1.9	34-145	20	12/29/2009 1049
1,1,2-Trichloroethane	50	54		1	108	1.6	55-128	20	12/29/2009 1049
1,1,1-Trichloroethane	50	53		1	106	1.5	63-128	20	12/29/2009 1049

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24377-003
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	54		1	107	1.1	62-126	20	12/29/2009 1049
Trichlorofluoromethane	50	55		1	109	3.1	45-138	20	12/29/2009 1049
Vinyl chloride	50	51		1	103	9.7	42-132	20	12/29/2009 1049
Xylenes (total)	100	110		1	111	1.9	58-128	20	12/29/2009 1049

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		89	47-138
1,2-Dichloroethane-d4		68	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24386-001
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/28/2009 1242
Benzene	ND		1	5.0	1.1	ug/kg	12/28/2009 1242
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
Bromoform	ND		1	5.0	0.70	ug/kg	12/28/2009 1242
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/28/2009 1242
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/28/2009 1242
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/28/2009 1242
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/28/2009 1242
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
Chloroethane	ND		1	5.0	1.3	ug/kg	12/28/2009 1242
Chloroform	ND		1	5.0	0.83	ug/kg	12/28/2009 1242
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/28/2009 1242
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/28/2009 1242
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/28/2009 1242
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/28/2009 1242
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/28/2009 1242
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/28/2009 1242
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/28/2009 1242
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/28/2009 1242
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/28/2009 1242
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/28/2009 1242
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/28/2009 1242
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/28/2009 1242
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
2-Hexanone	ND		1	10	1.3	ug/kg	12/28/2009 1242
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/28/2009 1242
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/28/2009 1242
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/28/2009 1242
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/28/2009 1242
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/28/2009 1242
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/28/2009 1242
Styrene	ND		1	5.0	1.1	ug/kg	12/28/2009 1242
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/28/2009 1242
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/28/2009 1242
Toluene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/28/2009 1242
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/28/2009 1242
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/28/2009 1242
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/28/2009 1242

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24386-001
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/28/2009 1242
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/28/2009 1242
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/28/2009 1242
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/28/2009 1242

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		87	47-138
1,2-Dichloroethane-d4		67	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24386-002
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	130		1	135	42-149	12/28/2009 1110
Benzene	50	54		1	109	69-123	12/28/2009 1110
Bromodichloromethane	50	57		1	113	69-121	12/28/2009 1110
Bromoform	50	55		1	110	61-119	12/28/2009 1110
Bromomethane (Methyl bromide)	50	54		1	108	35-144	12/28/2009 1110
2-Butanone (MEK)	100	110		1	106	57-148	12/28/2009 1110
Carbon disulfide	50	55		1	111	58-122	12/28/2009 1110
Carbon tetrachloride	50	54		1	109	58-136	12/28/2009 1110
Chlorobenzene	50	57		1	115	59-129	12/28/2009 1110
Chloroethane	50	54		1	108	50-132	12/28/2009 1110
Chloroform	50	54		1	108	71-125	12/28/2009 1110
Chloromethane (Methyl chloride)	50	49		1	98	34-134	12/28/2009 1110
Cyclohexane	50	53		1	106	53-139	12/28/2009 1110
1,2-Dibromo-3-chloropropane (DBCP)	50	59		1	118	55-125	12/28/2009 1110
Dibromochloromethane	50	55		1	110	66-119	12/28/2009 1110
1,2-Dibromoethane (EDB)	50	58		1	116	74-124	12/28/2009 1110
1,3-Dichlorobenzene	50	60		1	121	51-134	12/28/2009 1110
1,2-Dichlorobenzene	50	60		1	120	57-131	12/28/2009 1110
1,4-Dichlorobenzene	50	57		1	113	52-133	12/28/2009 1110
Dichlorodifluoromethane	50	70		1	141	10-157	12/28/2009 1110
1,2-Dichloroethane	50	52		1	104	67-129	12/28/2009 1110
1,1-Dichloroethane	50	53		1	105	71-127	12/28/2009 1110
trans-1,2-Dichloroethene	50	55		1	110	68-131	12/28/2009 1110
cis-1,2-Dichloroethene	50	55		1	110	70-122	12/28/2009 1110
1,1-Dichloroethene	50	54		1	109	69-138	12/28/2009 1110
1,2-Dichloropropane	50	54		1	108	72-124	12/28/2009 1110
trans-1,3-Dichloropropene	50	56		1	113	70-124	12/28/2009 1110
cis-1,3-Dichloropropene	50	54		1	108	70-126	12/28/2009 1110
Ethylbenzene	50	60		1	120	59-128	12/28/2009 1110
2-Hexanone	100	110		1	109	54-137	12/28/2009 1110
Isopropylbenzene	50	61		1	122	50-136	12/28/2009 1110
Methyl acetate	50	49		1	98	59-137	12/28/2009 1110
Methyl tertiary butyl ether (MTBE)	50	54		1	109	72-122	12/28/2009 1110
4-Methyl-2-pentanone	100	110		1	105	60-134	12/28/2009 1110
Methylcyclohexane	50	54		1	108	41-144	12/28/2009 1110
Methylene chloride	50	53		1	105	77-129	12/28/2009 1110
Styrene	50	58		1	115	54-136	12/28/2009 1110
1,1,2,2-Tetrachloroethane	50	61		1	122	69-132	12/28/2009 1110
Tetrachloroethene	50	57		1	114	70-130	12/28/2009 1110
Toluene	50	57		1	114	61-129	12/28/2009 1110
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	52		1	104	49-136	12/28/2009 1110
1,2,4-Trichlorobenzene	50	52		1	104	34-145	12/28/2009 1110
1,1,2-Trichloroethane	50	57		1	114	55-128	12/28/2009 1110
1,1,1-Trichloroethane	50	54		1	108	63-128	12/28/2009 1110

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24386-002
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	56		1	112	62-126	12/28/2009 1110
Trichlorofluoromethane	50	56		1	111	45-138	12/28/2009 1110
Vinyl chloride	50	52		1	103	42-132	12/28/2009 1110
Xylenes (total)	100	120		1	119	58-128	12/28/2009 1110

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	47-138
1,2-Dichloroethane-d4		69	53-142
Toluene-d8		84	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24386-003
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	125	7.6	42-149	20	12/28/2009 1133
Benzene	50	55		1	109	0.69	69-123	20	12/28/2009 1133
Bromodichloromethane	50	57		1	114	1.0	69-121	20	12/28/2009 1133
Bromoform	50	56		1	113	3.0	61-119	20	12/28/2009 1133
Bromomethane (Methyl bromide)	50	54		1	109	0.76	35-144	20	12/28/2009 1133
2-Butanone (MEK)	100	110		1	107	0.63	57-148	20	12/28/2009 1133
Carbon disulfide	50	56		1	113	1.7	58-122	20	12/28/2009 1133
Carbon tetrachloride	50	55		1	111	2.0	58-136	20	12/28/2009 1133
Chlorobenzene	50	59		1	118	3.0	59-129	20	12/28/2009 1133
Chloroethane	50	54		1	107	1.2	50-132	20	12/28/2009 1133
Chloroform	50	55		1	110	1.9	71-125	20	12/28/2009 1133
Chloromethane (Methyl chloride)	50	52		1	105	6.7	34-134	20	12/28/2009 1133
Cyclohexane	50	55		1	110	3.5	53-139	20	12/28/2009 1133
1,2-Dibromo-3-chloropropane (DBCP)	50	64	N	1	128	7.9	55-125	20	12/28/2009 1133
Dibromochloromethane	50	56		1	113	2.7	66-119	20	12/28/2009 1133
1,2-Dibromoethane (EDB)	50	60		1	120	3.0	74-124	20	12/28/2009 1133
1,3-Dichlorobenzene	50	62		1	124	2.5	51-134	20	12/28/2009 1133
1,2-Dichlorobenzene	50	62		1	125	4.1	57-131	20	12/28/2009 1133
1,4-Dichlorobenzene	50	58		1	116	2.5	52-133	20	12/28/2009 1133
Dichlorodifluoromethane	50	72		1	144	2.4	10-157	20	12/28/2009 1133
1,2-Dichloroethane	50	53		1	106	2.5	67-129	20	12/28/2009 1133
1,1-Dichloroethane	50	53		1	107	1.3	71-127	20	12/28/2009 1133
trans-1,2-Dichloroethene	50	56		1	111	1.4	68-131	20	12/28/2009 1133
cis-1,2-Dichloroethene	50	55		1	110	0.72	70-122	20	12/28/2009 1133
1,1-Dichloroethene	50	54		1	108	0.17	69-138	20	12/28/2009 1133
1,2-Dichloropropane	50	55		1	110	2.2	72-124	20	12/28/2009 1133
trans-1,3-Dichloropropene	50	58		1	116	3.3	70-124	20	12/28/2009 1133
cis-1,3-Dichloropropene	50	56		1	111	2.4	70-126	20	12/28/2009 1133
Ethylbenzene	50	61		1	122	1.5	59-128	20	12/28/2009 1133
2-Hexanone	100	110		1	114	4.3	54-137	20	12/28/2009 1133
Isopropylbenzene	50	62		1	124	1.3	50-136	20	12/28/2009 1133
Methyl acetate	50	50		1	101	2.6	59-137	20	12/28/2009 1133
Methyl tertiary butyl ether (MTBE)	50	56		1	112	2.9	72-122	20	12/28/2009 1133
4-Methyl-2-pentanone	100	110		1	108	2.2	60-134	20	12/28/2009 1133
Methylcyclohexane	50	55		1	110	1.7	41-144	20	12/28/2009 1133
Methylene chloride	50	53		1	107	1.6	77-129	20	12/28/2009 1133
Styrene	50	59		1	117	1.9	54-136	20	12/28/2009 1133
1,1,2,2-Tetrachloroethane	50	63		1	125	2.7	69-132	20	12/28/2009 1133
Tetrachloroethene	50	58		1	115	1.4	70-130	20	12/28/2009 1133
Toluene	50	57		1	115	0.92	61-129	20	12/28/2009 1133
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	52		1	104	0.59	49-136	20	12/28/2009 1133
1,2,4-Trichlorobenzene	50	63		1	125	19	34-145	20	12/28/2009 1133
1,1,2-Trichloroethane	50	59		1	117	3.0	55-128	20	12/28/2009 1133
1,1,1-Trichloroethane	50	55		1	110	1.9	63-128	20	12/28/2009 1133

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24386-003
Batch: 24386
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	57		1	113	1.3	62-126	20	12/28/2009 1133
Trichlorofluoromethane	50	57		1	113	1.7	45-138	20	12/28/2009 1133
Vinyl chloride	50	52		1	104	0.75	42-132	20	12/28/2009 1133
Xylenes (total)	100	120		1	120	0.93	58-128	20	12/28/2009 1133

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	47-138
1,2-Dichloroethane-d4		70	53-142
Toluene-d8		84	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24397-001
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	12/24/2009 1252
Benzene	ND		1	0.50	0.027	ug/L	12/24/2009 1252
Bromodichloromethane	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Bromoform	ND		1	0.50	0.010	ug/L	12/24/2009 1252
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	12/24/2009 1252
2-Butanone (MEK)	ND		1	10	2.0	ug/L	12/24/2009 1252
Carbon disulfide	ND		1	0.50	0.097	ug/L	12/24/2009 1252
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	12/24/2009 1252
Chlorobenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Chloroethane	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Chloroform	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Cyclohexane	ND		1	0.50	0.30	ug/L	12/24/2009 1252
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	12/24/2009 1252
Dibromochloromethane	ND		1	0.50	0.17	ug/L	12/24/2009 1252
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	12/24/2009 1252
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	12/24/2009 1252
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	12/24/2009 1252
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	12/24/2009 1252
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	12/24/2009 1252
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	12/24/2009 1252
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	12/24/2009 1252
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	12/24/2009 1252
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	12/24/2009 1252
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	12/24/2009 1252
Ethylbenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
2-Hexanone	ND		1	10	0.27	ug/L	12/24/2009 1252
Isopropylbenzene	ND		1	0.50	0.029	ug/L	12/24/2009 1252
Methyl acetate	ND		1	1.0	0.30	ug/L	12/24/2009 1252
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	12/24/2009 1252
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	12/24/2009 1252
Methylcyclohexane	ND		1	5.0	0.95	ug/L	12/24/2009 1252
Methylene chloride	ND		1	0.50	0.17	ug/L	12/24/2009 1252
Styrene	ND		1	0.50	0.015	ug/L	12/24/2009 1252
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	12/24/2009 1252
Tetrachloroethene	ND		1	0.50	0.014	ug/L	12/24/2009 1252
Toluene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	12/24/2009 1252
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	12/24/2009 1252
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	12/24/2009 1252
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	12/24/2009 1252

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24397-001
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	12/24/2009 1252
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	12/24/2009 1252
Vinyl chloride	ND		1	0.50	0.065	ug/L	12/24/2009 1252
Xylenes (total)	ND		1	0.50	0.17	ug/L	12/24/2009 1252

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		114	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24397-002
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	123	46-153	12/24/2009 1128
Benzene	50	49		1	98	70-130	12/24/2009 1128
Bromodichloromethane	50	51		1	102	70-130	12/24/2009 1128
Bromoform	50	53		1	106	70-130	12/24/2009 1128
Bromomethane (Methyl bromide)	50	53		1	106	60-140	12/24/2009 1128
2-Butanone (MEK)	100	100		1	104	60-140	12/24/2009 1128
Carbon disulfide	50	54		1	108	60-140	12/24/2009 1128
Carbon tetrachloride	50	56		1	112	70-130	12/24/2009 1128
Chlorobenzene	50	49		1	99	70-130	12/24/2009 1128
Chloroethane	50	56		1	112	42-163	12/24/2009 1128
Chloroform	50	47		1	95	70-130	12/24/2009 1128
Chloromethane (Methyl chloride)	50	58		1	115	20-158	12/24/2009 1128
Cyclohexane	50	57		1	114	70-130	12/24/2009 1128
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	115	70-130	12/24/2009 1128
Dibromochloromethane	50	53		1	105	70-130	12/24/2009 1128
1,2-Dibromoethane (EDB)	50	49		1	98	70-130	12/24/2009 1128
1,2-Dichlorobenzene	50	46		1	93	70-130	12/24/2009 1128
1,4-Dichlorobenzene	50	57		1	115	70-130	12/24/2009 1128
1,3-Dichlorobenzene	50	46		1	92	70-130	12/24/2009 1128
Dichlorodifluoromethane	50	71	N	1	143	60-140	12/24/2009 1128
1,1-Dichloroethane	50	49		1	98	70-130	12/24/2009 1128
1,2-Dichloroethane	50	48		1	95	70-130	12/24/2009 1128
1,1-Dichloroethene	50	52		1	104	70-130	12/24/2009 1128
trans-1,2-Dichloroethene	50	49		1	99	70-130	12/24/2009 1128
cis-1,2-Dichloroethene	50	48		1	96	70-130	12/24/2009 1128
1,2-Dichloropropane	50	49		1	97	70-130	12/24/2009 1128
cis-1,3-Dichloropropene	50	50		1	100	70-130	12/24/2009 1128
trans-1,3-Dichloropropene	50	51		1	101	70-130	12/24/2009 1128
Ethylbenzene	50	49		1	99	70-130	12/24/2009 1128
2-Hexanone	100	91		1	91	60-140	12/24/2009 1128
Isopropylbenzene	50	53		1	106	70-130	12/24/2009 1128
Methyl acetate	50	54		1	109	15-128	12/24/2009 1128
Methyl tertiary butyl ether (MTBE)	50	46		1	93	70-130	12/24/2009 1128
4-Methyl-2-pentanone	100	92		1	92	60-140	12/24/2009 1128
Methylcyclohexane	50	58		1	115	70-130	12/24/2009 1128
Methylene chloride	50	48		1	96	70-130	12/24/2009 1128
Styrene	50	51		1	102	70-130	12/24/2009 1128
1,1,2,2-Tetrachloroethane	50	49		1	98	70-130	12/24/2009 1128
Tetrachloroethene	50	51		1	102	70-130	12/24/2009 1128
Toluene	50	49		1	97	70-130	12/24/2009 1128
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	53		1	105	70-130	12/24/2009 1128
1,2,4-Trichlorobenzene	50	53		1	106	70-130	12/24/2009 1128
1,1,2-Trichloroethane	50	48		1	97	70-130	12/24/2009 1128
1,1,1-Trichloroethane	50	51		1	101	70-130	12/24/2009 1128

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24397-002
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	49		1	98	70-130	12/24/2009 1128
Trichlorofluoromethane	50	61		1	123	60-140	12/24/2009 1128
Vinyl chloride	50	59		1	118	60-140	12/24/2009 1128
Xylenes (total)	100	97		1	97	70-130	12/24/2009 1128

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		114	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		117	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24397-003
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	110		1	114	8.0	46-153	20	12/24/2009 1149
Benzene	50	50		1	100	2.4	70-130	20	12/24/2009 1149
Bromodichloromethane	50	52		1	103	1.3	70-130	20	12/24/2009 1149
Bromoform	50	53		1	105	1.1	70-130	20	12/24/2009 1149
Bromomethane (Methyl bromide)	50	56		1	112	5.0	60-140	20	12/24/2009 1149
2-Butanone (MEK)	100	100		1	103	1.1	60-140	20	12/24/2009 1149
Carbon disulfide	50	55		1	109	1.3	60-140	20	12/24/2009 1149
Carbon tetrachloride	50	57		1	114	1.9	70-130	20	12/24/2009 1149
Chlorobenzene	50	50		1	100	1.5	70-130	20	12/24/2009 1149
Chloroethane	50	57		1	113	0.87	42-163	20	12/24/2009 1149
Chloroform	50	48		1	95	0.33	70-130	20	12/24/2009 1149
Chloromethane (Methyl chloride)	50	56		1	112	2.6	20-158	20	12/24/2009 1149
Cyclohexane	50	57		1	115	0.63	70-130	20	12/24/2009 1149
1,2-Dibromo-3-chloropropane (DBCP)	50	57		1	114	1.1	70-130	20	12/24/2009 1149
Dibromochloromethane	50	53		1	105	0.053	70-130	20	12/24/2009 1149
1,2-Dibromoethane (EDB)	50	49		1	98	0.37	70-130	20	12/24/2009 1149
1,2-Dichlorobenzene	50	47		1	94	0.96	70-130	20	12/24/2009 1149
1,4-Dichlorobenzene	50	59		1	117	2.2	70-130	20	12/24/2009 1149
1,3-Dichlorobenzene	50	47		1	94	2.4	70-130	20	12/24/2009 1149
Dichlorodifluoromethane	50	72	N	1	143	0.32	60-140	20	12/24/2009 1149
1,1-Dichloroethane	50	48		1	96	2.5	70-130	20	12/24/2009 1149
1,2-Dichloroethane	50	47		1	94	1.4	70-130	20	12/24/2009 1149
1,1-Dichloroethene	50	53		1	107	2.4	70-130	20	12/24/2009 1149
trans-1,2-Dichloroethene	50	50		1	100	1.1	70-130	20	12/24/2009 1149
cis-1,2-Dichloroethene	50	48		1	97	1.1	70-130	20	12/24/2009 1149
1,2-Dichloropropane	50	49		1	98	0.92	70-130	20	12/24/2009 1149
cis-1,3-Dichloropropene	50	50		1	101	0.42	70-130	20	12/24/2009 1149
trans-1,3-Dichloropropene	50	51		1	101	0.17	70-130	20	12/24/2009 1149
Ethylbenzene	50	50		1	101	2.2	70-130	20	12/24/2009 1149
2-Hexanone	100	88		1	88	2.8	60-140	20	12/24/2009 1149
Isopropylbenzene	50	54		1	108	1.6	70-130	20	12/24/2009 1149
Methyl acetate	50	52		1	104	5.1	15-128	20	12/24/2009 1149
Methyl tertiary butyl ether (MTBE)	50	45		1	89	3.6	70-130	20	12/24/2009 1149
4-Methyl-2-pentanone	100	89		1	89	4.0	60-140	20	12/24/2009 1149
Methylcyclohexane	50	60		1	120	3.9	70-130	20	12/24/2009 1149
Methylene chloride	50	48		1	96	0.58	70-130	20	12/24/2009 1149
Styrene	50	52		1	103	1.9	70-130	20	12/24/2009 1149
1,1,2,2-Tetrachloroethane	50	48		1	97	1.6	70-130	20	12/24/2009 1149
Tetrachloroethene	50	53		1	107	4.3	70-130	20	12/24/2009 1149
Toluene	50	49		1	99	1.7	70-130	20	12/24/2009 1149
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	111	5.1	70-130	20	12/24/2009 1149
1,2,4-Trichlorobenzene	50	54		1	108	1.9	70-130	20	12/24/2009 1149
1,1,2-Trichloroethane	50	49		1	97	0.39	70-130	20	12/24/2009 1149
1,1,1-Trichloroethane	50	51		1	102	0.67	70-130	20	12/24/2009 1149

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24397-003
Batch: 24397
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	51		1	102	4.0	70-130	20	12/24/2009 1149
Trichlorofluoromethane	50	64		1	128	4.1	60-140	20	12/24/2009 1149
Vinyl chloride	50	59		1	119	1.0	60-140	20	12/24/2009 1149
Xylenes (total)	100	98		1	98	1.1	70-130	20	12/24/2009 1149

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		115	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24457-001
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	12/29/2009 0236
Benzene	ND		1	0.50	0.027	ug/L	12/29/2009 0236
Bromodichloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Bromoform	ND		1	0.50	0.010	ug/L	12/29/2009 0236
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	12/29/2009 0236
2-Butanone (MEK)	ND		1	10	2.0	ug/L	12/29/2009 0236
Carbon disulfide	ND		1	0.50	0.097	ug/L	12/29/2009 0236
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	12/29/2009 0236
Chlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Chloroethane	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Chloroform	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Cyclohexane	0.38	J	1	0.50	0.30	ug/L	12/29/2009 0236
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	12/29/2009 0236
Dibromochloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 0236
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	12/29/2009 0236
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	12/29/2009 0236
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	12/29/2009 0236
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	12/29/2009 0236
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	12/29/2009 0236
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	12/29/2009 0236
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	12/29/2009 0236
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	12/29/2009 0236
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	12/29/2009 0236
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	12/29/2009 0236
Ethylbenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
2-Hexanone	ND		1	10	0.27	ug/L	12/29/2009 0236
Isopropylbenzene	ND		1	0.50	0.029	ug/L	12/29/2009 0236
Methyl acetate	ND		1	1.0	0.30	ug/L	12/29/2009 0236
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	12/29/2009 0236
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	12/29/2009 0236
Methylcyclohexane	ND		1	5.0	0.95	ug/L	12/29/2009 0236
Methylene chloride	ND		1	0.50	0.17	ug/L	12/29/2009 0236
Styrene	ND		1	0.50	0.015	ug/L	12/29/2009 0236
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	12/29/2009 0236
Tetrachloroethene	ND		1	0.50	0.014	ug/L	12/29/2009 0236
Toluene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	12/29/2009 0236
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 0236
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	12/29/2009 0236
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	12/29/2009 0236

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24457-001
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	12/29/2009 0236
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	12/29/2009 0236
Vinyl chloride	ND		1	0.50	0.065	ug/L	12/29/2009 0236
Xylenes (total)	ND		1	0.50	0.17	ug/L	12/29/2009 0236

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24457-002
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	100		1	104	46-153	12/29/2009 0023
Benzene	50	51		1	102	70-130	12/29/2009 0023
Bromodichloromethane	50	54		1	108	70-130	12/29/2009 0023
Bromoform	50	51		1	102	70-130	12/29/2009 0023
Bromomethane (Methyl bromide)	50	54		1	108	60-140	12/29/2009 0023
2-Butanone (MEK)	100	110		1	105	60-140	12/29/2009 0023
Carbon disulfide	50	54		1	109	60-140	12/29/2009 0023
Carbon tetrachloride	50	53		1	105	70-130	12/29/2009 0023
Chlorobenzene	50	53		1	105	70-130	12/29/2009 0023
Chloroethane	50	54		1	108	42-163	12/29/2009 0023
Chloroform	50	52		1	103	70-130	12/29/2009 0023
Chloromethane (Methyl chloride)	50	50		1	99	20-158	12/29/2009 0023
Cyclohexane	50	59		1	119	70-130	12/29/2009 0023
1,2-Dibromo-3-chloropropane (DBCP)	50	60		1	121	70-130	12/29/2009 0023
Dibromochloromethane	50	58		1	117	70-130	12/29/2009 0023
1,2-Dibromoethane (EDB)	50	54		1	109	70-130	12/29/2009 0023
1,4-Dichlorobenzene	50	55		1	111	70-130	12/29/2009 0023
1,2-Dichlorobenzene	50	53		1	106	70-130	12/29/2009 0023
1,3-Dichlorobenzene	50	55		1	111	70-130	12/29/2009 0023
Dichlorodifluoromethane	50	52		1	104	60-140	12/29/2009 0023
1,2-Dichloroethane	50	51		1	101	70-130	12/29/2009 0023
1,1-Dichloroethane	50	50		1	101	70-130	12/29/2009 0023
cis-1,2-Dichloroethene	50	52		1	104	70-130	12/29/2009 0023
1,1-Dichloroethene	50	52		1	104	70-130	12/29/2009 0023
trans-1,2-Dichloroethene	50	52		1	104	70-130	12/29/2009 0023
1,2-Dichloropropane	50	51		1	102	70-130	12/29/2009 0023
cis-1,3-Dichloropropene	50	50		1	100	70-130	12/29/2009 0023
trans-1,3-Dichloropropene	50	51		1	102	70-130	12/29/2009 0023
Ethylbenzene	50	57		1	113	70-130	12/29/2009 0023
2-Hexanone	100	110		1	106	60-140	12/29/2009 0023
Isopropylbenzene	50	60		1	120	70-130	12/29/2009 0023
Methyl acetate	50	46		1	93	15-128	12/29/2009 0023
Methyl tertiary butyl ether (MTBE)	50	54		1	107	70-130	12/29/2009 0023
4-Methyl-2-pentanone	100	110		1	110	60-140	12/29/2009 0023
Methylcyclohexane	50	60		1	120	70-130	12/29/2009 0023
Methylene chloride	50	49		1	99	70-130	12/29/2009 0023
Styrene	50	60		1	119	70-130	12/29/2009 0023
1,1,2,2-Tetrachloroethane	50	54		1	108	70-130	12/29/2009 0023
Tetrachloroethene	50	54		1	107	70-130	12/29/2009 0023
Toluene	50	54		1	108	70-130	12/29/2009 0023
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	59		1	117	70-130	12/29/2009 0023
1,2,4-Trichlorobenzene	50	61		1	123	70-130	12/29/2009 0023
1,1,2-Trichloroethane	50	53		1	106	70-130	12/29/2009 0023
1,1,1-Trichloroethane	50	54		1	108	70-130	12/29/2009 0023

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24457-002
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	53		1	106	70-130	12/29/2009 0023
Trichlorofluoromethane	50	50		1	101	60-140	12/29/2009 0023
Vinyl chloride	50	53		1	106	60-140	12/29/2009 0023
Xylenes (total)	100	110		1	115	70-130	12/29/2009 0023

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24457-003
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	78	+	1	78	28	46-153	20	12/29/2009 0045
Benzene	50	49		1	99	2.8	70-130	20	12/29/2009 0045
Bromodichloromethane	50	52		1	104	3.7	70-130	20	12/29/2009 0045
Bromoform	50	49		1	98	4.3	70-130	20	12/29/2009 0045
Bromomethane (Methyl bromide)	50	51		1	102	6.2	60-140	20	12/29/2009 0045
2-Butanone (MEK)	100	100		1	101	3.8	60-140	20	12/29/2009 0045
Carbon disulfide	50	51		1	102	6.5	60-140	20	12/29/2009 0045
Carbon tetrachloride	50	51		1	101	4.1	70-130	20	12/29/2009 0045
Chlorobenzene	50	53		1	106	0.56	70-130	20	12/29/2009 0045
Chloroethane	50	51		1	102	6.1	42-163	20	12/29/2009 0045
Chloroform	50	49		1	98	5.2	70-130	20	12/29/2009 0045
Chloromethane (Methyl chloride)	50	49		1	98	1.7	20-158	20	12/29/2009 0045
Cyclohexane	50	57		1	114	3.6	70-130	20	12/29/2009 0045
1,2-Dibromo-3-chloropropane (DBCP)	50	51		1	102	17	70-130	20	12/29/2009 0045
Dibromochloromethane	50	57		1	114	2.0	70-130	20	12/29/2009 0045
1,2-Dibromoethane (EDB)	50	55		1	111	1.9	70-130	20	12/29/2009 0045
1,4-Dichlorobenzene	50	55		1	110	0.64	70-130	20	12/29/2009 0045
1,2-Dichlorobenzene	50	53		1	105	1.1	70-130	20	12/29/2009 0045
1,3-Dichlorobenzene	50	55		1	110	0.64	70-130	20	12/29/2009 0045
Dichlorodifluoromethane	50	50		1	100	3.6	60-140	20	12/29/2009 0045
1,2-Dichloroethane	50	48		1	96	5.2	70-130	20	12/29/2009 0045
1,1-Dichloroethane	50	48		1	95	5.8	70-130	20	12/29/2009 0045
cis-1,2-Dichloroethene	50	48		1	96	7.3	70-130	20	12/29/2009 0045
1,1-Dichloroethene	50	48		1	96	7.4	70-130	20	12/29/2009 0045
trans-1,2-Dichloroethene	50	49		1	99	4.6	70-130	20	12/29/2009 0045
1,2-Dichloropropane	50	51		1	102	0.23	70-130	20	12/29/2009 0045
cis-1,3-Dichloropropene	50	52		1	104	3.3	70-130	20	12/29/2009 0045
trans-1,3-Dichloropropene	50	52		1	104	2.4	70-130	20	12/29/2009 0045
Ethylbenzene	50	57		1	113	0.039	70-130	20	12/29/2009 0045
2-Hexanone	100	110		1	114	7.1	60-140	20	12/29/2009 0045
Isopropylbenzene	50	60		1	119	0.044	70-130	20	12/29/2009 0045
Methyl acetate	50	42		1	85	9.1	15-128	20	12/29/2009 0045
Methyl tertiary butyl ether (MTBE)	50	49		1	97	9.5	70-130	20	12/29/2009 0045
4-Methyl-2-pentanone	100	110		1	107	2.2	60-140	20	12/29/2009 0045
Methylcyclohexane	50	59		1	118	1.7	70-130	20	12/29/2009 0045
Methylene chloride	50	46		1	93	6.4	70-130	20	12/29/2009 0045
Styrene	50	59		1	118	0.64	70-130	20	12/29/2009 0045
1,1,2,2-Tetrachloroethane	50	52		1	104	3.9	70-130	20	12/29/2009 0045
Tetrachloroethene	50	53		1	106	0.60	70-130	20	12/29/2009 0045
Toluene	50	55		1	110	1.6	70-130	20	12/29/2009 0045
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	56		1	112	4.0	70-130	20	12/29/2009 0045
1,2,4-Trichlorobenzene	50	54		1	108	12	70-130	20	12/29/2009 0045
1,1,2-Trichloroethane	50	53		1	107	0.16	70-130	20	12/29/2009 0045
1,1,1-Trichloroethane	50	52		1	103	4.2	70-130	20	12/29/2009 0045

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24457-003
Batch: 24457
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	51		1	102	3.2	70-130	20	12/29/2009 0045
Trichlorofluoromethane	50	48		1	96	5.5	60-140	20	12/29/2009 0045
Vinyl chloride	50	50		1	100	6.1	60-140	20	12/29/2009 0045
Xylenes (total)	100	110		1	112	2.1	70-130	20	12/29/2009 0045

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24599-001
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/30/2009 2323
Benzene	ND		1	5.0	1.1	ug/kg	12/30/2009 2323
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Bromoform	ND		1	5.0	0.70	ug/kg	12/30/2009 2323
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/30/2009 2323
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/30/2009 2323
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/30/2009 2323
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/30/2009 2323
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Chloroethane	ND		1	5.0	1.3	ug/kg	12/30/2009 2323
Chloroform	ND		1	5.0	0.83	ug/kg	12/30/2009 2323
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/30/2009 2323
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/30/2009 2323
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/30/2009 2323
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/30/2009 2323
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/30/2009 2323
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/30/2009 2323
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/30/2009 2323
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/30/2009 2323
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/30/2009 2323
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/30/2009 2323
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
2-Hexanone	ND		1	10	1.3	ug/kg	12/30/2009 2323
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/30/2009 2323
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/30/2009 2323
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/30/2009 2323
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/30/2009 2323
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/30/2009 2323
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/30/2009 2323
Styrene	ND		1	5.0	1.1	ug/kg	12/30/2009 2323
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/30/2009 2323
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/30/2009 2323
Toluene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/30/2009 2323
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/30/2009 2323
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/30/2009 2323

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24599-001
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/30/2009 2323
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/30/2009 2323
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/30/2009 2323

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		85	47-138
1,2-Dichloroethane-d4		70	53-142
Toluene-d8		82	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24599-002
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	110		1	109	42-149	12/30/2009 2207
Benzene	50	49		1	97	69-123	12/30/2009 2207
Bromodichloromethane	50	54		1	107	69-121	12/30/2009 2207
Bromoform	50	53		1	107	61-119	12/30/2009 2207
Bromomethane (Methyl bromide)	50	48		1	95	35-144	12/30/2009 2207
2-Butanone (MEK)	100	96		1	96	57-148	12/30/2009 2207
Carbon disulfide	50	47		1	94	58-122	12/30/2009 2207
Carbon tetrachloride	50	46		1	92	58-136	12/30/2009 2207
Chlorobenzene	50	49		1	98	59-129	12/30/2009 2207
Chloroethane	50	48		1	97	50-132	12/30/2009 2207
Chloroform	50	52		1	104	71-125	12/30/2009 2207
Chloromethane (Methyl chloride)	50	41		1	81	34-134	12/30/2009 2207
Cyclohexane	50	44		1	88	53-139	12/30/2009 2207
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	117	55-125	12/30/2009 2207
Dibromochloromethane	50	53		1	106	66-119	12/30/2009 2207
1,2-Dibromoethane (EDB)	50	56		1	111	74-124	12/30/2009 2207
1,3-Dichlorobenzene	50	45		1	90	51-134	12/30/2009 2207
1,4-Dichlorobenzene	50	43		1	87	52-133	12/30/2009 2207
1,2-Dichlorobenzene	50	48		1	96	57-131	12/30/2009 2207
Dichlorodifluoromethane	50	54		1	109	10-157	12/30/2009 2207
1,2-Dichloroethane	50	52		1	105	67-129	12/30/2009 2207
1,1-Dichloroethane	50	50		1	100	71-127	12/30/2009 2207
trans-1,2-Dichloroethene	50	48		1	95	68-131	12/30/2009 2207
1,1-Dichloroethene	50	46		1	91	69-138	12/30/2009 2207
cis-1,2-Dichloroethene	50	51		1	102	70-122	12/30/2009 2207
1,2-Dichloropropane	50	51		1	102	72-124	12/30/2009 2207
cis-1,3-Dichloropropene	50	48		1	96	70-126	12/30/2009 2207
trans-1,3-Dichloropropene	50	50		1	101	70-124	12/30/2009 2207
Ethylbenzene	50	49		1	97	59-128	12/30/2009 2207
2-Hexanone	100	110		1	114	54-137	12/30/2009 2207
Isopropylbenzene	50	48		1	96	50-136	12/30/2009 2207
Methyl acetate	50	47		1	94	59-137	12/30/2009 2207
Methyl tertiary butyl ether (MTBE)	50	56		1	113	72-122	12/30/2009 2207
4-Methyl-2-pentanone	100	100		1	103	60-134	12/30/2009 2207
Methylcyclohexane	50	39		1	78	41-144	12/30/2009 2207
Methylene chloride	50	53		1	105	77-129	12/30/2009 2207
Styrene	50	48		1	95	54-136	12/30/2009 2207
1,1,2,2-Tetrachloroethane	50	52		1	105	69-132	12/30/2009 2207
Tetrachloroethene	50	42		1	84	70-130	12/30/2009 2207
Toluene	50	48		1	95	61-129	12/30/2009 2207
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	39		1	78	49-136	12/30/2009 2207
1,2,4-Trichlorobenzene	50	37		1	74	34-145	12/30/2009 2207
1,1,2-Trichloroethane	50	57		1	115	55-128	12/30/2009 2207
1,1,1-Trichloroethane	50	48		1	96	63-128	12/30/2009 2207

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24599-002
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	50		1	100	62-126	12/30/2009 2207
Trichlorofluoromethane	50	45		1	90	45-138	12/30/2009 2207
Vinyl chloride	50	40		1	80	42-132	12/30/2009 2207
Xylenes (total)	100	96		1	96	58-128	12/30/2009 2207

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	47-138
1,2-Dichloroethane-d4		72	53-142
Toluene-d8		84	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24599-003
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	110		1	106	2.7	42-149	20	12/30/2009 2230
Benzene	50	48		1	96	1.1	69-123	20	12/30/2009 2230
Bromodichloromethane	50	54		1	108	0.26	69-121	20	12/30/2009 2230
Bromoform	50	53		1	106	0.99	61-119	20	12/30/2009 2230
Bromomethane (Methyl bromide)	50	50		1	100	5.1	35-144	20	12/30/2009 2230
2-Butanone (MEK)	100	99		1	99	2.7	57-148	20	12/30/2009 2230
Carbon disulfide	50	45		1	91	3.2	58-122	20	12/30/2009 2230
Carbon tetrachloride	50	45		1	89	3.1	58-136	20	12/30/2009 2230
Chlorobenzene	50	48		1	95	2.6	59-129	20	12/30/2009 2230
Chloroethane	50	47		1	93	3.5	50-132	20	12/30/2009 2230
Chloroform	50	51		1	101	2.9	71-125	20	12/30/2009 2230
Chloromethane (Methyl chloride)	50	40		1	79	2.2	34-134	20	12/30/2009 2230
Cyclohexane	50	42		1	83	6.0	53-139	20	12/30/2009 2230
1,2-Dibromo-3-chloropropane (DBCP)	50	61		1	122	4.3	55-125	20	12/30/2009 2230
Dibromochloromethane	50	52		1	105	1.5	66-119	20	12/30/2009 2230
1,2-Dibromoethane (EDB)	50	55		1	111	0.39	74-124	20	12/30/2009 2230
1,3-Dichlorobenzene	50	44		1	88	3.2	51-134	20	12/30/2009 2230
1,4-Dichlorobenzene	50	43		1	87	0.33	52-133	20	12/30/2009 2230
1,2-Dichlorobenzene	50	48		1	97	0.61	57-131	20	12/30/2009 2230
Dichlorodifluoromethane	50	53		1	106	3.0	10-157	20	12/30/2009 2230
1,2-Dichloroethane	50	52		1	104	0.58	67-129	20	12/30/2009 2230
1,1-Dichloroethane	50	49		1	98	2.8	71-127	20	12/30/2009 2230
trans-1,2-Dichloroethene	50	46		1	93	2.8	68-131	20	12/30/2009 2230
1,1-Dichloroethene	50	44		1	89	2.9	69-138	20	12/30/2009 2230
cis-1,2-Dichloroethene	50	50		1	100	1.4	70-122	20	12/30/2009 2230
1,2-Dichloropropane	50	51		1	102	0.57	72-124	20	12/30/2009 2230
cis-1,3-Dichloropropene	50	49		1	97	1.3	70-126	20	12/30/2009 2230
trans-1,3-Dichloropropene	50	49		1	99	1.9	70-124	20	12/30/2009 2230
Ethylbenzene	50	47		1	94	3.7	59-128	20	12/30/2009 2230
2-Hexanone	100	110		1	110	3.5	54-137	20	12/30/2009 2230
Isopropylbenzene	50	46		1	93	3.3	50-136	20	12/30/2009 2230
Methyl acetate	50	47		1	94	0.72	59-137	20	12/30/2009 2230
Methyl tertiary butyl ether (MTBE)	50	56		1	111	1.0	72-122	20	12/30/2009 2230
4-Methyl-2-pentanone	100	110		1	106	2.8	60-134	20	12/30/2009 2230
Methylcyclohexane	50	37		1	75	4.5	41-144	20	12/30/2009 2230
Methylene chloride	50	51		1	102	3.0	77-129	20	12/30/2009 2230
Styrene	50	47		1	94	1.2	54-136	20	12/30/2009 2230
1,1,2,2-Tetrachloroethane	50	53		1	106	1.3	69-132	20	12/30/2009 2230
Tetrachloroethene	50	40		1	79	5.5	70-130	20	12/30/2009 2230
Toluene	50	48		1	95	0.029	61-129	20	12/30/2009 2230
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	37		1	74	5.6	49-136	20	12/30/2009 2230
1,2,4-Trichlorobenzene	50	37		1	75	1.3	34-145	20	12/30/2009 2230
1,1,2-Trichloroethane	50	56		1	111	3.4	55-128	20	12/30/2009 2230
1,1,1-Trichloroethane	50	46		1	92	4.1	63-128	20	12/30/2009 2230

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24599-003
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	49		1	99	1.2	62-126	20	12/30/2009 2230
Trichlorofluoromethane	50	44		1	88	2.5	45-138	20	12/30/2009 2230
Vinyl chloride	50	38		1	76	4.8	42-132	20	12/30/2009 2230
Xylenes (total)	100	93		1	93	3.2	58-128	20	12/30/2009 2230

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	47-138
1,2-Dichloroethane-d4		74	53-142
Toluene-d8		88	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 101503

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bostian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X	Waybill No.	Page 1 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAFS.H17B.DG0F1	P.O. No.		Lot No.: KL16030

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab / Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	8260 VOCs	Remarks / Cooler I.D.
H17-PF4(121409)-(34-35)	12-14-09	0930	G		X							X	5	
H17-PF4(121409)-(44-45)	12-14-09	0935	G		X							X	5	
H17-FD3(121409)-(34-35)	12-14-09	1415	G		X							X	5	
H17-FD3(121409)-(44-45	12-14-09	1420	G		X							X	5	
H17-FD1(121409)-(34-35)	12-14-09	1100	G		X							X	5	
H17-FD1(121409)-(44-45)	12-14-09	1105	G		X							X	5	
H17-FD2(121409)-(34-35)	12-14-09	1600	G		X							X	5	
H17-FD2(121409)-(44-45)	12-14-09	1605	G		X							X	5	
H17-FD2(121509)-(41-45)	12-15-09	0745	G	X						X			3	
H17-FD3(121509)-(41-45)	12-15-09	0830	G	X						X			3	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	12-15-09	1800	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by: FEDEX	12/16/09	0840	3. Laboratory received by	12/16/09	0840

Comments:

LAB USE ONLY
Received on Ice (Circle) (Yes) No Ice Pack
Receipt Temp. 4.9 °C

DISTRIBUTION: WHITE & YELLOW Return to laboratory with Sample(s); PINK Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 101504

Client: Arcadis	Report to Contact: Scott Bastian	Telephone No. / Fax No. / E-mail: 919-854-6282 / scott.bastian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X	Waybill No.	Page 2 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAFS.H17B.DG0F1	P.O. No.		Lot No. KL16030

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Composite / Discrete	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Ascorbic	H2SO4	HNO3	HCl	NaOH	5035 Kit	8260 VOCs	Remarks / Cooler I.D.
H17-FD1(121509)-(41-45)	12-15-09	0915	G	X						X			3	
H17-PF4(121509)-(41-45)	12-15-09	0945	G	X						X			3	
H17-PF1(121509)-(41-45)	12-15-09	1045	G	X						X			3	
H17-AF102(121509)-(34-35)	12-15-09	1500	G	X	JOF 12-15-09							X	5	
H17-AF102(121509)-(44-45)	12-15-09	1505	G		X							X	5	
H17-AF102(121509)-(41-45)	12-15-09	1520	G	X						X			3	
H17-AF103(121509)-(41-45)	12-15-09	1610	G	X						X			3	
Trip Blank				X						X			2	
		JOF			12-15-2009									

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by	12-15-09	1800	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by FedEx	12/16/09	0840	3. Laboratory received by	12/16/09	0840

Comments

LAB USE ONLY
Received on ice (Circle) (Yes) No Ice Pack

Receipt Temp. 4.9 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: HAA-17

Project Number: GP08HAFS.H17B.DG0F1

Lot Number: KL18024

Date Completed: 01/04/2010



Nisreen Saikaly
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

KL18024

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KL18024

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The RPD for Vinyl chloride exceeded method control limits in batch 23963; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCS recovery for 1,2,4-Trichlorobenzene was outside method control limits in batch 24494. The LCSD results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for many analytes exceeded method control limits in batch 24560; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

Sample -001, -004, -006: The initial run of these samples had an internal standard failure. The sample was reanalyzed outside the holding time. Both runs are reported.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KL18024

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	H17-AF103 (121609)- (34-35)	Solid	12/16/2009 0900	12/18/2009
002	H17-AF103 (121609)- (44-45)	Solid	12/16/2009 0905	12/18/2009
003	H17-AF104 (121609)- (24-25)	Solid	12/16/2009 1035	12/18/2009
004	H17-AF104 (121609)- (34-35)	Solid	12/16/2009 1045	12/18/2009
005	H17-AF104 (121609)- (44-45)	Solid	12/16/2009 1050	12/18/2009
006	H17-AF105 (121609)- (34-35)	Solid	12/16/2009 1605	12/18/2009
007	H17-AF105 (121609)- (44-45)	Solid	12/16/2009 1610	12/18/2009
008	H17-AF105 (121609)- (41-45)	Aqueous	12/16/2009 1645	12/18/2009
009	H17-AF107 (121709)- (34-35)	Solid	12/17/2009 1000	12/18/2009
010	H17-AF107 (121709)- (44-45)	Solid	12/17/2009 1005	12/18/2009
011	H17-AF107 (121709)- (41-45)	Aqueous	12/17/2009 1000	12/18/2009
012	H17-PF2 (121709)- (41-45)	Aqueous	12/17/2009 1145	12/18/2009
013	H17-AF108 (121709)- (34-35)	Solid	12/17/2009 1500	12/18/2009
014	H17-AF108 (121709)- (44-45)	Solid	12/17/2009 1505	12/18/2009
015	H17-AF108 (121709)- (41-45)	Aqueous	12/17/2009 1525	12/18/2009
016	H17-AF104 (121709)- (41-45)	Aqueous	12/17/2009 1630	12/18/2009
017	Trip Blank	Aqueous	12/18/2009 0836	12/18/2009

(17 samples)

Executive Summary

ARCADIS U.S., Inc.

Lot Number: KL18024

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	H17-AF103 (121609)- (34-	Solid	Acetone	8260B	20		ug/kg	5
001	H17-AF103 (121609)- (34-	Solid	Carbon disulfide	8260B	3.9		ug/kg	5
001	H17-AF103 (121609)- (34-	Solid	Carbon disulfide	8260B	2.4	JH	ug/kg	7
002	H17-AF103 (121609)- (44-	Solid	Carbon disulfide	8260B	4.2		ug/kg	9
003	H17-AF104 (121609)- (24-	Solid	Carbon disulfide	8260B	0.86	J	ug/kg	11
004	H17-AF104 (121609)- (34-	Solid	Acetone	8260B	31		ug/kg	13
004	H17-AF104 (121609)- (34-	Solid	Carbon disulfide	8260B	2.3	J	ug/kg	13
004	H17-AF104 (121609)- (34-	Solid	Chloromethane (Methyl chloride)	8260B	0.64	J	ug/kg	13
005	H17-AF104 (121609)- (44-	Solid	Carbon disulfide	8260B	3.0		ug/kg	17
005	H17-AF104 (121609)- (44-	Solid	Cyclohexane	8260B	0.58	J	ug/kg	17
005	H17-AF104 (121609)- (44-	Solid	4-Methyl-2-pentanone	8260B	7.2		ug/kg	17
006	H17-AF105 (121609)- (34-	Solid	Carbon disulfide	8260B	3.8		ug/kg	19
006	H17-AF105 (121609)- (34-	Solid	Carbon disulfide	8260B	0.81	JH	ug/kg	21
007	H17-AF105 (121609)- (44-	Solid	Carbon disulfide	8260B	0.93	J	ug/kg	23
007	H17-AF105 (121609)- (44-	Solid	Cyclohexane	8260B	0.58	J	ug/kg	23
008	H17-AF105 (121609)- (41-	Aqueous	Acetone	8260B	3.0	J	ug/L	25
009	H17-AF107 (121709)- (34-	Solid	Carbon disulfide	8260B	2.1	J	ug/kg	27
009	H17-AF107 (121709)- (34-	Solid	Cyclohexane	8260B	0.42	J	ug/kg	27
009	H17-AF107 (121709)- (34-	Solid	Trichloroethene	8260B	1.5	J	ug/kg	28
011	H17-AF107 (121709)- (41-	Aqueous	Acetone	8260B	1.9	J	ug/L	31
011	H17-AF107 (121709)- (41-	Aqueous	Trichloroethene	8260B	0.38	J	ug/L	32
012	H17-PF2 (121709)- (41-45)	Aqueous	Carbon disulfide	8260B	0.36	J	ug/L	33
012	H17-PF2 (121709)- (41-45)	Aqueous	1,1-Dichloroethene	8260B	0.21	J	ug/L	33
012	H17-PF2 (121709)- (41-45)	Aqueous	cis-1,2-Dichloroethene	8260B	7.5		ug/L	33
014	H17-AF108 (121709)- (44-	Solid	Carbon disulfide	8260B	1.6	J	ug/kg	37
015	H17-AF108 (121709)- (41-	Aqueous	Acetone	8260B	2.7	J	ug/L	39
015	H17-AF108 (121709)- (41-	Aqueous	Carbon disulfide	8260B	0.75		ug/L	39
016	H17-AF104 (121709)- (41-	Aqueous	Acetone	8260B	4.5	J	ug/L	41
016	H17-AF104 (121709)- (41-	Aqueous	Carbon disulfide	8260B	0.73		ug/L	41
016	H17-AF104 (121709)- (41-	Aqueous	cis-1,2-Dichloroethene	8260B	0.45	J	ug/L	41
017	Trip Blank	Aqueous	Acetone	8260B	2.4	J	ug/L	43
017	Trip Blank	Aqueous	Carbon disulfide	8260B	0.17	J	ug/L	43
017	Trip Blank	Aqueous	Methylene chloride	8260B	0.17	J	ug/L	43

(33 detections)

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-001
Description: H17-AF103 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 0900
% Solids: 80.6 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1735	LBS		24377	13.73
2	5035	8260B	1	12/31/2009 0000	MZ		24599	11.08

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	20		9.0	3.0	ug/kg	1
Benzene	71-43-2	8260B	ND		2.3	0.50	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.3	0.77	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.3	0.32	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.3	0.81	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.5	1.1	ug/kg	1
Carbon disulfide	75-15-0	8260B	3.9		2.3	0.59	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.3	0.81	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.3	0.77	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.3	0.59	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.3	0.37	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.3	0.45	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.3	0.30	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.3	0.68	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.3	0.77	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.3	0.38	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.3	0.77	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.3	0.77	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.3	0.77	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.3	0.72	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.3	0.33	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.3	0.45	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.3	0.77	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.3	0.34	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.3	0.68	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.3	0.41	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.3	0.31	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.3	0.37	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.3	0.77	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.5	0.59	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.3	0.36	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.3	0.30	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.3	0.18	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.5	0.68	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.3	0.28	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.3	1.2	ug/kg	1
Styrene	100-42-5	8260B	ND		2.3	0.50	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.3	0.21	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.3	1.0	ug/kg	1
Toluene	108-88-3	8260B	ND		2.3	0.77	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.3	0.95	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.3	0.77	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.3	0.38	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-001
Description: H17-AF103 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 0900
% Solids: 80.6 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1735	LBS		24377	13.73
2	5035	8260B	1	12/31/2009 0000	MZ		24599	11.08

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.3	0.36	ug/kg	1
Trichloroethene	79-01-6	8260B	ND		2.3	0.86	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.3	0.68	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.3	0.39	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.3	1.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142	H	63	53-142
Bromofluorobenzene		84	47-138	H	82	47-138
Toluene-d8		81	68-124	H	90	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-001
Description: H17-AF103 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 0900
% Solids: 80.6 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1735	LBS		24377	13.73
2	5035	8260B	1	12/31/2009 0000	MZ		24599	11.08

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	11	3.8	ug/kg	2
Benzene	71-43-2	8260B	ND	H	2.8	0.62	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND	H	2.8	0.95	ug/kg	2
Bromoform	75-25-2	8260B	ND	H	2.8	0.39	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	2.8	1.0	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND	H	5.6	1.3	ug/kg	2
Carbon disulfide	75-15-0	8260B	2.4	JH	2.8	0.73	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND	H	2.8	1.0	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND	H	2.8	0.95	ug/kg	2
Chloroethane	75-00-3	8260B	ND	H	2.8	0.73	ug/kg	2
Chloroform	67-66-3	8260B	ND	H	2.8	0.46	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	2.8	0.56	ug/kg	2
Cyclohexane	110-82-7	8260B	ND	H	2.8	0.38	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	2.8	0.84	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND	H	2.8	0.95	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	2.8	0.48	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	2.8	0.95	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	2.8	0.95	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	2.8	0.95	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND	H	2.8	0.90	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND	H	2.8	0.41	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND	H	2.8	0.56	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND	H	2.8	0.95	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	2.8	0.43	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	2.8	0.84	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND	H	2.8	0.51	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	2.8	0.38	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	2.8	0.46	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND	H	2.8	0.95	ug/kg	2
2-Hexanone	591-78-6	8260B	ND	H	5.6	0.73	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND	H	2.8	0.45	ug/kg	2
Methyl acetate	79-20-9	8260B	ND	H	2.8	0.38	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	2.8	0.22	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	5.6	0.84	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND	H	2.8	0.34	ug/kg	2
Methylene chloride	75-09-2	8260B	ND	H	2.8	1.5	ug/kg	2
Styrene	100-42-5	8260B	ND	H	2.8	0.62	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	2.8	0.26	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND	H	2.8	1.3	ug/kg	2
Toluene	108-88-3	8260B	ND	H	2.8	0.95	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	2.8	1.2	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	2.8	0.95	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	2.8	0.48	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-001
Description: H17-AF103 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 0900
% Solids: 80.6 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1735	LBS		24377	13.73
2	5035	8260B	1	12/31/2009 0000	MZ		24599	11.08

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	2.8	0.44	ug/kg	2
Trichloroethene	79-01-6	8260B	ND	H	2.8	1.1	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND	H	2.8	0.84	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND	H	2.8	0.48	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND	H	2.8	1.6	ug/kg	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		74	53-142	H	63	53-142
Bromofluorobenzene		84	47-138	H	82	47-138
Toluene-d8		81	68-124	H	90	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-002
Description: H17-AF103 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 0905
% Solids: 87.8 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1758	LBS		24377	12.01

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		9.5	3.2	ug/kg	1
Benzene	71-43-2	8260B	ND		2.4	0.52	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.4	0.81	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.4	0.33	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.4	0.85	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.7	1.1	ug/kg	1
Carbon disulfide	75-15-0	8260B	4.2		2.4	0.62	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.4	0.85	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.4	0.81	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.4	0.62	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.4	0.39	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.4	0.47	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.4	0.32	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.4	0.71	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.4	0.81	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.4	0.40	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.4	0.81	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.4	0.81	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.4	0.81	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.4	0.76	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.4	0.35	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.4	0.47	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.4	0.81	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.4	0.36	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.4	0.71	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.4	0.43	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.4	0.32	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.4	0.39	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.4	0.81	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.7	0.62	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.4	0.38	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.4	0.32	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.4	0.19	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.7	0.71	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.4	0.29	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.4	1.2	ug/kg	1
Styrene	100-42-5	8260B	ND		2.4	0.52	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.4	0.22	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.4	1.1	ug/kg	1
Toluene	108-88-3	8260B	ND		2.4	0.81	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.4	1.0	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.4	0.81	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.4	0.40	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.4	0.37	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-002
Description: H17-AF103 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 0905
% Solids: 87.8 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1758	LBS		24377	12.01

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.4	0.90	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.4	0.71	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.4	0.41	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.4	1.4	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		71	53-142
Bromofluorobenzene		85	47-138
Toluene-d8		82	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-003
Description: H17-AF104 (121609)- (24-25)
Matrix: Solid
Date Sampled: 12/16/2009 1035
% Solids: 83.7 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1821	LBS		24377	11.24

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		11	3.6	ug/kg	1
Benzene	71-43-2	8260B	ND		2.7	0.58	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.7	0.90	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.7	0.37	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.7	0.96	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.3	1.3	ug/kg	1
Carbon disulfide	75-15-0	8260B	0.86	J	2.7	0.69	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.7	0.96	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.7	0.90	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.7	0.69	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.7	0.44	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.7	0.53	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.7	0.36	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.7	0.80	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.7	0.90	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.7	0.45	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.7	0.90	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.7	0.90	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.7	0.90	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.7	0.85	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.7	0.39	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.7	0.53	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.7	0.90	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.7	0.40	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.7	0.80	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.7	0.48	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.7	0.36	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.7	0.44	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.7	0.90	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.3	0.69	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.7	0.43	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.7	0.36	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.7	0.21	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.3	0.80	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.7	0.32	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.7	1.4	ug/kg	1
Styrene	100-42-5	8260B	ND		2.7	0.58	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.7	0.25	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.7	1.2	ug/kg	1
Toluene	108-88-3	8260B	ND		2.7	0.90	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.7	1.1	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.7	0.90	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.7	0.45	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.7	0.42	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-003
Description: H17-AF104 (121609)- (24-25)
Matrix: Solid
Date Sampled: 12/16/2009 1035
% Solids: 83.7 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1821	LBS		24377	11.24

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.7	1.0	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.7	0.80	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.7	0.46	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.7	1.5	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		71	53-142
Bromofluorobenzene		84	47-138
Toluene-d8		80	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-004
Description: H17-AF104 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1045
% Solids: 76.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1844	LBS		24377	10.79
2	5035	8260B	1	12/31/2009 0218	MZ		24599	10.86

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	31		12	4.1	ug/kg	1
Benzene	71-43-2	8260B	ND		3.0	0.67	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.0	1.0	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.0	0.43	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.0	1.1	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.1	1.5	ug/kg	1
Carbon disulfide	75-15-0	8260B	2.3	J	3.0	0.79	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.0	1.1	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.0	1.0	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.0	0.79	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.0	0.51	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	0.64	J	3.0	0.61	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.0	0.41	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.0	0.91	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.0	1.0	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.0	0.52	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.0	1.0	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.0	1.0	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.0	1.0	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.0	0.98	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.0	0.45	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.0	0.61	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.0	1.0	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.0	0.46	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.0	0.91	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.0	0.56	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.0	0.41	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.0	0.50	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.0	1.0	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.1	0.79	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.0	0.49	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.0	0.41	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.0	0.24	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.1	0.91	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.0	0.37	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.0	1.6	ug/kg	1
Styrene	100-42-5	8260B	ND		3.0	0.67	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.0	0.29	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.0	1.4	ug/kg	1
Toluene	108-88-3	8260B	ND		3.0	1.0	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.0	1.3	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.0	1.0	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.0	0.52	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-004
Description: H17-AF104 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1045
% Solids: 76.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1844	LBS		24377	10.79
2	5035	8260B	1	12/31/2009 0218	MZ		24599	10.86

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.0	0.48	ug/kg	1
Trichloroethene	79-01-6	8260B	ND		3.0	1.2	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.0	0.91	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.0	0.52	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.0	1.8	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		72	53-142	H	64	53-142
Bromofluorobenzene		84	47-138	H	78	47-138
Toluene-d8		83	68-124	H	78	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-004
Description: H17-AF104 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1045
% Solids: 76.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1844	LBS		24377	10.79
2	5035	8260B	1	12/31/2009 0218	MZ		24599	10.86

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	12	4.1	ug/kg	2
Benzene	71-43-2	8260B	ND	H	3.0	0.67	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND	H	3.0	1.0	ug/kg	2
Bromoform	75-25-2	8260B	ND	H	3.0	0.42	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	3.0	1.1	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND	H	6.1	1.5	ug/kg	2
Carbon disulfide	75-15-0	8260B	ND	H	3.0	0.79	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND	H	3.0	1.1	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND	H	3.0	1.0	ug/kg	2
Chloroethane	75-00-3	8260B	ND	H	3.0	0.79	ug/kg	2
Chloroform	67-66-3	8260B	ND	H	3.0	0.50	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	3.0	0.61	ug/kg	2
Cyclohexane	110-82-7	8260B	ND	H	3.0	0.41	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	3.0	0.91	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND	H	3.0	1.0	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	3.0	0.52	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	3.0	1.0	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	3.0	1.0	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	3.0	1.0	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND	H	3.0	0.97	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND	H	3.0	0.44	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND	H	3.0	0.61	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND	H	3.0	1.0	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	3.0	0.46	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	3.0	0.91	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND	H	3.0	0.55	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	3.0	0.41	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	3.0	0.50	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND	H	3.0	1.0	ug/kg	2
2-Hexanone	591-78-6	8260B	ND	H	6.1	0.79	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND	H	3.0	0.48	ug/kg	2
Methyl acetate	79-20-9	8260B	ND	H	3.0	0.41	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	3.0	0.24	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	6.1	0.91	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND	H	3.0	0.37	ug/kg	2
Methylene chloride	75-09-2	8260B	ND	H	3.0	1.6	ug/kg	2
Styrene	100-42-5	8260B	ND	H	3.0	0.67	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	3.0	0.28	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND	H	3.0	1.4	ug/kg	2
Toluene	108-88-3	8260B	ND	H	3.0	1.0	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	3.0	1.3	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	3.0	1.0	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	3.0	0.52	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-004
Description: H17-AF104 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1045
% Solids: 76.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1844	LBS		24377	10.79
2	5035	8260B	1	12/31/2009 0218	MZ		24599	10.86

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	3.0	0.48	ug/kg	2
Trichloroethene	79-01-6	8260B	ND	H	3.0	1.2	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND	H	3.0	0.91	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND	H	3.0	0.52	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND	H	3.0	1.8	ug/kg	2

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		72	53-142	H	64	53-142
Bromofluorobenzene		84	47-138	H	78	47-138
Toluene-d8		83	68-124	H	78	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-005
Description: H17-AF104 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 1050
% Solids: 83.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2132	DLB		23963	10.25

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		12	3.9	ug/kg	1
Benzene	71-43-2	8260B	ND		2.9	0.65	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.9	1.0	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.9	0.41	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.9	1.1	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.9	1.4	ug/kg	1
Carbon disulfide	75-15-0	8260B	3.0		2.9	0.76	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.9	1.1	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.9	1.0	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.9	0.76	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.9	0.49	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.9	0.59	ug/kg	1
Cyclohexane	110-82-7	8260B	0.58	J	2.9	0.40	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.9	0.88	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.9	1.0	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.9	0.50	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.9	1.0	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.9	1.0	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.9	1.0	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.9	0.94	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.9	0.43	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.9	0.59	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.9	1.0	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.9	0.45	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.9	0.88	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.9	0.54	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.9	0.40	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.9	0.48	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.9	1.0	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.9	0.76	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.9	0.47	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.9	0.39	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.9	0.24	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	7.2		5.9	0.88	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.9	0.36	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.9	1.5	ug/kg	1
Styrene	100-42-5	8260B	ND		2.9	0.65	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.9	0.28	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.9	1.4	ug/kg	1
Toluene	108-88-3	8260B	ND		2.9	1.0	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.9	1.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.9	1.0	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.9	0.50	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.9	0.46	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-005
Description: H17-AF104 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 1050
% Solids: 83.0 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2132	DLB		23963	10.25

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.9	1.1	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.9	0.88	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.9	0.51	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.9	1.7	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	53-142
Bromofluorobenzene		100	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-006
Description: H17-AF105 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1605
% Solids: 71.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1907	LBS		24377	10.22
2	5035	8260B	1	12/31/2009 0023	MZ		24599	12.14

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		14	4.6	ug/kg	1
Benzene	71-43-2	8260B	ND		3.4	0.76	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.4	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.4	0.48	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.4	1.2	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.9	1.7	ug/kg	1
Carbon disulfide	75-15-0	8260B	3.8		3.4	0.89	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.4	1.2	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.4	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.4	0.89	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.4	0.57	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.4	0.69	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.4	0.46	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.4	1.0	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.4	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.4	0.59	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.4	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.4	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.4	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.4	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.4	0.50	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.4	0.69	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.4	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.4	0.52	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.4	1.0	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.4	0.63	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.4	0.47	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.4	0.56	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.4	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.9	0.89	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.4	0.55	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.4	0.46	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.4	0.28	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.9	1.0	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.4	0.42	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.4	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.4	0.76	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.4	0.32	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.4	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.4	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.4	1.4	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.4	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.4	0.59	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-006
Description: H17-AF105 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1605
% Solids: 71.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1907	LBS		24377	10.22
2	5035	8260B	1	12/31/2009 0023	MZ		24599	12.14

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.4	0.54	ug/kg	1
Trichloroethene	79-01-6	8260B	ND		3.4	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.4	1.0	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.4	0.59	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.4	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		75	53-142	H	74	53-142
Bromofluorobenzene		84	47-138	H	88	47-138
Toluene-d8		82	68-124	H	85	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-006
Description: H17-AF105 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1605
% Solids: 71.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1907	LBS		24377	10.22
2	5035	8260B	1	12/31/2009 0023	MZ		24599	12.14

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	H	12	3.9	ug/kg	2
Benzene	71-43-2	8260B	ND	H	2.9	0.64	ug/kg	2
Bromodichloromethane	75-27-4	8260B	ND	H	2.9	0.99	ug/kg	2
Bromoform	75-25-2	8260B	ND	H	2.9	0.41	ug/kg	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	H	2.9	1.0	ug/kg	2
2-Butanone (MEK)	78-93-3	8260B	ND	H	5.8	1.4	ug/kg	2
Carbon disulfide	75-15-0	8260B	0.81	JH	2.9	0.75	ug/kg	2
Carbon tetrachloride	56-23-5	8260B	ND	H	2.9	1.0	ug/kg	2
Chlorobenzene	108-90-7	8260B	ND	H	2.9	0.99	ug/kg	2
Chloroethane	75-00-3	8260B	ND	H	2.9	0.75	ug/kg	2
Chloroform	67-66-3	8260B	ND	H	2.9	0.48	ug/kg	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	H	2.9	0.58	ug/kg	2
Cyclohexane	110-82-7	8260B	ND	H	2.9	0.39	ug/kg	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	H	2.9	0.87	ug/kg	2
Dibromochloromethane	124-48-1	8260B	ND	H	2.9	0.99	ug/kg	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	H	2.9	0.49	ug/kg	2
1,2-Dichlorobenzene	95-50-1	8260B	ND	H	2.9	0.99	ug/kg	2
1,3-Dichlorobenzene	541-73-1	8260B	ND	H	2.9	0.99	ug/kg	2
1,4-Dichlorobenzene	106-46-7	8260B	ND	H	2.9	0.99	ug/kg	2
Dichlorodifluoromethane	75-71-8	8260B	ND	H	2.9	0.93	ug/kg	2
1,1-Dichloroethane	75-34-3	8260B	ND	H	2.9	0.42	ug/kg	2
1,2-Dichloroethane	107-06-2	8260B	ND	H	2.9	0.58	ug/kg	2
1,1-Dichloroethene	75-35-4	8260B	ND	H	2.9	0.99	ug/kg	2
cis-1,2-Dichloroethene	156-59-2	8260B	ND	H	2.9	0.44	ug/kg	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND	H	2.9	0.87	ug/kg	2
1,2-Dichloropropane	78-87-5	8260B	ND	H	2.9	0.53	ug/kg	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	H	2.9	0.39	ug/kg	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	H	2.9	0.48	ug/kg	2
Ethylbenzene	100-41-4	8260B	ND	H	2.9	0.99	ug/kg	2
2-Hexanone	591-78-6	8260B	ND	H	5.8	0.75	ug/kg	2
Isopropylbenzene	98-82-8	8260B	ND	H	2.9	0.46	ug/kg	2
Methyl acetate	79-20-9	8260B	ND	H	2.9	0.39	ug/kg	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	H	2.9	0.23	ug/kg	2
4-Methyl-2-pentanone	108-10-1	8260B	ND	H	5.8	0.87	ug/kg	2
Methylcyclohexane	108-87-2	8260B	ND	H	2.9	0.35	ug/kg	2
Methylene chloride	75-09-2	8260B	ND	H	2.9	1.5	ug/kg	2
Styrene	100-42-5	8260B	ND	H	2.9	0.64	ug/kg	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	H	2.9	0.27	ug/kg	2
Tetrachloroethene	127-18-4	8260B	ND	H	2.9	1.3	ug/kg	2
Toluene	108-88-3	8260B	ND	H	2.9	0.99	ug/kg	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	H	2.9	1.2	ug/kg	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	H	2.9	0.99	ug/kg	2
1,1,1-Trichloroethane	71-55-6	8260B	ND	H	2.9	0.49	ug/kg	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-006
Description: H17-AF105 (121609)- (34-35)
Matrix: Solid
Date Sampled: 12/16/2009 1605
% Solids: 71.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1907	LBS		24377	10.22
2	5035	8260B	1	12/31/2009 0023	MZ		24599	12.14

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND	H	2.9	0.46	ug/kg	2
Trichloroethene	79-01-6	8260B	ND	H	2.9	1.1	ug/kg	2
Trichlorofluoromethane	75-69-4	8260B	ND	H	2.9	0.87	ug/kg	2
Vinyl chloride	75-01-4	8260B	ND	H	2.9	0.50	ug/kg	2
Xylenes (total)	1330-20-7	8260B	ND	H	2.9	1.7	ug/kg	2

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		75	53-142	H	74	53-142
Bromofluorobenzene		84	47-138	H	88	47-138
Toluene-d8		82	68-124	H	85	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-007
Description: H17-AF105 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 1610
% Solids: 83.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2155	DLB		23963	10.83

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		11	3.7	ug/kg	1
Benzene	71-43-2	8260B	ND		2.8	0.61	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.8	0.94	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.8	0.39	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.8	1.0	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.6	1.3	ug/kg	1
Carbon disulfide	75-15-0	8260B	0.93	J	2.8	0.72	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.8	1.0	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.8	0.94	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.8	0.72	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.8	0.46	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.8	0.56	ug/kg	1
Cyclohexane	110-82-7	8260B	0.58	J	2.8	0.37	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.8	0.83	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.8	0.94	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.8	0.47	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.8	0.94	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.8	0.94	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.8	0.94	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.8	0.89	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.8	0.41	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.8	0.56	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.8	0.94	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.8	0.42	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.8	0.83	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.8	0.51	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.8	0.38	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.8	0.46	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.8	0.94	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.6	0.72	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.8	0.44	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.8	0.37	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.8	0.22	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.6	0.83	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.8	0.34	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.8	1.4	ug/kg	1
Styrene	100-42-5	8260B	ND		2.8	0.61	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.8	0.26	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.8	1.3	ug/kg	1
Toluene	108-88-3	8260B	ND		2.8	0.94	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.8	1.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.8	0.94	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.8	0.47	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.8	0.44	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-007
Description: H17-AF105 (121609)- (44-45)
Matrix: Solid
Date Sampled: 12/16/2009 1610
% Solids: 83.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2155	DLB		23963	10.83

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.8	1.1	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.8	0.83	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.8	0.48	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.8	1.6	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	53-142
Bromofluorobenzene		100	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-008
Description: H17-AF105 (121609)- (41-45)
Matrix: Aqueous
Date Sampled: 12/16/2009 1645
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0340	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	3.0	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-008
Description: H17-AF105 (121609)- (41-45)
Matrix: Aqueous
Date Sampled: 12/16/2009 1645
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0340	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-009
Description: H17-AF107 (121709)- (34-35)
Matrix: Solid
Date Sampled: 12/17/2009 1000
% Solids: 87.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2218	DLB		23963	12.44

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		9.2	3.1	ug/kg	1
Benzene	71-43-2	8260B	ND		2.3	0.51	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.3	0.78	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.3	0.32	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.3	0.83	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		4.6	1.1	ug/kg	1
Carbon disulfide	75-15-0	8260B	2.1	J	2.3	0.60	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.3	0.83	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.3	0.78	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.3	0.60	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.3	0.38	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.3	0.46	ug/kg	1
Cyclohexane	110-82-7	8260B	0.42	J	2.3	0.31	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.3	0.69	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.3	0.78	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.3	0.39	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.3	0.78	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.3	0.78	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.3	0.78	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.3	0.74	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.3	0.34	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.3	0.46	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.3	0.78	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.3	0.35	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.3	0.69	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.3	0.42	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.3	0.31	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.3	0.38	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.3	0.78	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		4.6	0.60	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.3	0.37	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.3	0.31	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.3	0.18	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		4.6	0.69	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.3	0.28	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.3	1.2	ug/kg	1
Styrene	100-42-5	8260B	ND		2.3	0.51	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.3	0.22	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.3	1.1	ug/kg	1
Toluene	108-88-3	8260B	ND		2.3	0.78	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.3	0.97	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.3	0.78	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.3	0.39	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.3	0.36	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-009
Description: H17-AF107 (121709)- (34-35)
Matrix: Solid
Date Sampled: 12/17/2009 1000
% Solids: 87.1 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/19/2009 2218	DLB		23963	12.44

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	1.5	J	2.3	0.88	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.3	0.69	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.3	0.40	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.3	1.3	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	53-142
Bromofluorobenzene		98	47-138
Toluene-d8		111	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-010
Description: H17-AF107 (121709)- (44-45)
Matrix: Solid
Date Sampled: 12/17/2009 1005
% Solids: 89.4 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1335	RRH		24560	8.95

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		13	4.2	ug/kg	1
Benzene	71-43-2	8260B	ND		3.1	0.69	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.1	1.1	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.1	0.44	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.1	1.1	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		6.3	1.5	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		3.1	0.81	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.1	1.1	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.1	1.1	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.1	0.81	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.1	0.52	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.1	0.63	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.1	0.42	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.1	0.94	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.1	1.1	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.1	0.53	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.1	1.1	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.1	1.1	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.1	1.1	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.1	1.0	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.1	0.46	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.1	0.63	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.1	1.1	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.1	0.48	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.1	0.94	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.1	0.57	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.1	0.43	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.1	0.51	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.1	1.1	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		6.3	0.81	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.1	0.50	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.1	0.42	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.1	0.25	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		6.3	0.94	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.1	0.38	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.1	1.6	ug/kg	1
Styrene	100-42-5	8260B	ND		3.1	0.69	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.1	0.29	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.1	1.4	ug/kg	1
Toluene	108-88-3	8260B	ND		3.1	1.1	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.1	1.3	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.1	1.1	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.1	0.53	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.1	0.49	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-010
Description: H17-AF107 (121709)- (44-45)
Matrix: Solid
Date Sampled: 12/17/2009 1005
% Solids: 89.4 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1335	RRH		24560	8.95

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.1	1.2	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.1	0.94	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.1	0.54	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.1	1.8	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		114	53-142
Bromofluorobenzene		92	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-011
Description: H17-AF107 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1000
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0401	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.9	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-011
Description: H17-AF107 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1000
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0401	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	0.38	J	0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-012
Description: H17-PF2 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1145
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0422	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.36	J	0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	0.21	J	0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	7.5		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-012
Description: H17-PF2 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1145
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0422	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-013
Description: H17-AF108 (121709)- (34-35)
Matrix: Solid
Date Sampled: 12/17/2009 1500
% Solids: 73.3 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1358	RRH		24560	9.73

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		14	4.7	ug/kg	1
Benzene	71-43-2	8260B	ND		3.5	0.77	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		3.5	1.2	ug/kg	1
Bromoform	75-25-2	8260B	ND		3.5	0.49	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		3.5	1.3	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		7.0	1.7	ug/kg	1
Carbon disulfide	75-15-0	8260B	ND		3.5	0.91	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		3.5	1.3	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		3.5	1.2	ug/kg	1
Chloroethane	75-00-3	8260B	ND		3.5	0.91	ug/kg	1
Chloroform	67-66-3	8260B	ND		3.5	0.58	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		3.5	0.70	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		3.5	0.47	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		3.5	1.1	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		3.5	1.2	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		3.5	0.60	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		3.5	1.2	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		3.5	1.2	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		3.5	1.2	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		3.5	1.1	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		3.5	0.51	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		3.5	0.70	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		3.5	1.2	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		3.5	0.53	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		3.5	1.1	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		3.5	0.64	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		3.5	0.48	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		3.5	0.57	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		3.5	1.2	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		7.0	0.91	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		3.5	0.56	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		3.5	0.47	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		3.5	0.28	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		7.0	1.1	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		3.5	0.43	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		3.5	1.8	ug/kg	1
Styrene	100-42-5	8260B	ND		3.5	0.77	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		3.5	0.33	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		3.5	1.6	ug/kg	1
Toluene	108-88-3	8260B	ND		3.5	1.2	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		3.5	1.5	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		3.5	1.2	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		3.5	0.60	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		3.5	0.55	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-013
Description: H17-AF108 (121709)- (34-35)
Matrix: Solid
Date Sampled: 12/17/2009 1500
% Solids: 73.3 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1358	RRH		24560	9.73

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		3.5	1.3	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		3.5	1.1	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		3.5	0.60	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		3.5	2.0	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	53-142
Bromofluorobenzene		88	47-138
Toluene-d8		104	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-014
Description: H17-AF108 (121709)- (44-45)
Matrix: Solid
Date Sampled: 12/17/2009 1505
% Solids: 78.4 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1421	RRH		24560	11.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		11	3.8	ug/kg	1
Benzene	71-43-2	8260B	ND		2.9	0.63	ug/kg	1
Bromodichloromethane	75-27-4	8260B	ND		2.9	0.97	ug/kg	1
Bromoform	75-25-2	8260B	ND		2.9	0.40	ug/kg	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.9	1.0	ug/kg	1
2-Butanone (MEK)	78-93-3	8260B	ND		5.7	1.4	ug/kg	1
Carbon disulfide	75-15-0	8260B	1.6	J	2.9	0.74	ug/kg	1
Carbon tetrachloride	56-23-5	8260B	ND		2.9	1.0	ug/kg	1
Chlorobenzene	108-90-7	8260B	ND		2.9	0.97	ug/kg	1
Chloroethane	75-00-3	8260B	ND		2.9	0.74	ug/kg	1
Chloroform	67-66-3	8260B	ND		2.9	0.47	ug/kg	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.9	0.57	ug/kg	1
Cyclohexane	110-82-7	8260B	ND		2.9	0.38	ug/kg	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.9	0.86	ug/kg	1
Dibromochloromethane	124-48-1	8260B	ND		2.9	0.97	ug/kg	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.9	0.49	ug/kg	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.9	0.97	ug/kg	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.9	0.97	ug/kg	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.9	0.97	ug/kg	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.9	0.91	ug/kg	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.9	0.42	ug/kg	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.9	0.57	ug/kg	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.9	0.97	ug/kg	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		2.9	0.43	ug/kg	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.9	0.86	ug/kg	1
1,2-Dichloropropane	78-87-5	8260B	ND		2.9	0.52	ug/kg	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.9	0.39	ug/kg	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.9	0.47	ug/kg	1
Ethylbenzene	100-41-4	8260B	ND		2.9	0.97	ug/kg	1
2-Hexanone	591-78-6	8260B	ND		5.7	0.74	ug/kg	1
Isopropylbenzene	98-82-8	8260B	ND		2.9	0.46	ug/kg	1
Methyl acetate	79-20-9	8260B	ND		2.9	0.38	ug/kg	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2.9	0.23	ug/kg	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		5.7	0.86	ug/kg	1
Methylcyclohexane	108-87-2	8260B	ND		2.9	0.35	ug/kg	1
Methylene chloride	75-09-2	8260B	ND		2.9	1.5	ug/kg	1
Styrene	100-42-5	8260B	ND		2.9	0.63	ug/kg	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.9	0.27	ug/kg	1
Tetrachloroethene	127-18-4	8260B	ND		2.9	1.3	ug/kg	1
Toluene	108-88-3	8260B	ND		2.9	0.97	ug/kg	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.9	1.2	ug/kg	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.9	0.97	ug/kg	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.9	0.49	ug/kg	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.9	0.45	ug/kg	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-014
Description: H17-AF108 (121709)- (44-45)
Matrix: Solid
Date Sampled: 12/17/2009 1505
% Solids: 78.4 12/18/2009 1913
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	Sample Wt.(g)
1	5035	8260B	1	12/29/2009 1421	RRH		24560	11.17

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		2.9	1.1	ug/kg	1
Trichlorofluoromethane	75-69-4	8260B	ND		2.9	0.86	ug/kg	1
Vinyl chloride	75-01-4	8260B	ND		2.9	0.49	ug/kg	1
Xylenes (total)	1330-20-7	8260B	ND		2.9	1.7	ug/kg	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		119	53-142
Bromofluorobenzene		91	47-138
Toluene-d8		107	68-124

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-015
Description: H17-AF108 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1525
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0443	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.7	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.75		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-015
Description: H17-AF108 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1525
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0443	RRH		24494

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-016
Description: H17-AF104 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1630
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0100	RRH		24460

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	4.5	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.73		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	0.45	J	0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-016
Description: H17-AF104 (121709)- (41-45)
Matrix: Aqueous
Date Sampled: 12/17/2009 1630
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0100	RRH		24460

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-017
Description: Trip Blank
Matrix: Aqueous
Date Sampled: 12/18/2009 0836
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0123	RRH		24460

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.4	J	10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	0.17	J	0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	0.17	J	0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: ARCADIS U.S., Inc.
Laboratory ID: KL18024-017
Description: Trip Blank
Matrix: Aqueous
Date Sampled: 12/18/2009 0836
Date Received: 12/18/2009

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	12/30/2009 0123	RRH		24460

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		97	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/19/2009 1824
Benzene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Bromoform	ND		1	5.0	0.70	ug/kg	12/19/2009 1824
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/19/2009 1824
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/19/2009 1824
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Chloroethane	ND		1	5.0	1.3	ug/kg	12/19/2009 1824
Chloroform	ND		1	5.0	0.83	ug/kg	12/19/2009 1824
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/19/2009 1824
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/19/2009 1824
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/19/2009 1824
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/19/2009 1824
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/19/2009 1824
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/19/2009 1824
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/19/2009 1824
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
2-Hexanone	ND		1	10	1.3	ug/kg	12/19/2009 1824
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/19/2009 1824
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/19/2009 1824
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/19/2009 1824
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/19/2009 1824
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/19/2009 1824
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/19/2009 1824
Styrene	ND		1	5.0	1.1	ug/kg	12/19/2009 1824
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/19/2009 1824
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/19/2009 1824
Toluene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/19/2009 1824
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/19/2009 1824
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/19/2009 1824
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/19/2009 1824

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ23963-001
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/19/2009 1824
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/19/2009 1824
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/19/2009 1824
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/19/2009 1824

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	47-138
1,2-Dichloroethane-d4		92	53-142
Toluene-d8		107	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	123	42-149	12/19/2009 1627
Benzene	50	55		1	110	69-123	12/19/2009 1627
Bromodichloromethane	50	58		1	116	69-121	12/19/2009 1627
Bromoform	50	54		1	109	61-119	12/19/2009 1627
Bromomethane (Methyl bromide)	50	46		1	91	35-144	12/19/2009 1627
2-Butanone (MEK)	100	120		1	120	57-148	12/19/2009 1627
Carbon disulfide	50	58		1	115	58-122	12/19/2009 1627
Carbon tetrachloride	50	59		1	118	58-136	12/19/2009 1627
Chlorobenzene	50	56		1	112	59-129	12/19/2009 1627
Chloroethane	50	51		1	102	50-132	12/19/2009 1627
Chloroform	50	55		1	110	71-125	12/19/2009 1627
Chloromethane (Methyl chloride)	50	46		1	93	34-134	12/19/2009 1627
Cyclohexane	50	58		1	116	53-139	12/19/2009 1627
1,2-Dibromo-3-chloropropane (DBCP)	50	63		1	125	55-125	12/19/2009 1627
Dibromochloromethane	50	55		1	110	66-119	12/19/2009 1627
1,2-Dibromoethane (EDB)	50	57		1	114	74-124	12/19/2009 1627
1,2-Dichlorobenzene	50	60		1	119	57-131	12/19/2009 1627
1,4-Dichlorobenzene	50	61		1	121	52-133	12/19/2009 1627
1,3-Dichlorobenzene	50	61		1	122	51-134	12/19/2009 1627
Dichlorodifluoromethane	50	49		1	98	10-157	12/19/2009 1627
1,2-Dichloroethane	50	55		1	109	67-129	12/19/2009 1627
1,1-Dichloroethane	50	54		1	108	71-127	12/19/2009 1627
1,1-Dichloroethene	50	57		1	114	69-138	12/19/2009 1627
cis-1,2-Dichloroethene	50	56		1	112	70-122	12/19/2009 1627
trans-1,2-Dichloroethene	50	56		1	112	68-131	12/19/2009 1627
1,2-Dichloropropane	50	55		1	111	72-124	12/19/2009 1627
trans-1,3-Dichloropropene	50	55		1	110	70-124	12/19/2009 1627
cis-1,3-Dichloropropene	50	54		1	108	70-126	12/19/2009 1627
Ethylbenzene	50	62		1	123	59-128	12/19/2009 1627
2-Hexanone	100	120		1	117	54-137	12/19/2009 1627
Isopropylbenzene	50	60		1	120	50-136	12/19/2009 1627
Methyl acetate	50	49		1	98	59-137	12/19/2009 1627
Methyl tertiary butyl ether (MTBE)	50	58		1	117	72-122	12/19/2009 1627
4-Methyl-2-pentanone	100	110		1	112	60-134	12/19/2009 1627
Methylcyclohexane	50	61		1	121	41-144	12/19/2009 1627
Methylene chloride	50	53		1	105	77-129	12/19/2009 1627
Styrene	50	57		1	113	54-136	12/19/2009 1627
1,1,2,2-Tetrachloroethane	50	59		1	118	69-132	12/19/2009 1627
Tetrachloroethene	50	59		1	119	70-130	12/19/2009 1627
Toluene	50	59		1	118	61-129	12/19/2009 1627
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	110	49-136	12/19/2009 1627
1,2,4-Trichlorobenzene	50	69		1	137	34-145	12/19/2009 1627
1,1,1-Trichloroethane	50	57		1	113	63-128	12/19/2009 1627
1,1,2-Trichloroethane	50	56		1	112	55-128	12/19/2009 1627

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ23963-002
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	57		1	113	62-126	12/19/2009 1627
Trichlorofluoromethane	50	56		1	112	45-138	12/19/2009 1627
Vinyl chloride	50	52		1	103	42-132	12/19/2009 1627
Xylenes (total)	100	120		1	115	58-128	12/19/2009 1627

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		126	47-138
1,2-Dichloroethane-d4		97	53-142
Toluene-d8		117	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	118	4.0	42-149	20	12/19/2009 1650
Benzene	50	49		1	98	11	69-123	20	12/19/2009 1650
Bromodichloromethane	50	55		1	109	5.5	69-121	20	12/19/2009 1650
Bromoform	50	54		1	107	1.6	61-119	20	12/19/2009 1650
Bromomethane (Methyl bromide)	50	43		1	86	5.8	35-144	20	12/19/2009 1650
2-Butanone (MEK)	100	120		1	120	0.13	57-148	20	12/19/2009 1650
Carbon disulfide	50	50		1	100	14	58-122	20	12/19/2009 1650
Carbon tetrachloride	50	52		1	105	12	58-136	20	12/19/2009 1650
Chlorobenzene	50	53		1	106	6.1	59-129	20	12/19/2009 1650
Chloroethane	50	44		1	88	14	50-132	20	12/19/2009 1650
Chloroform	50	51		1	103	6.9	71-125	20	12/19/2009 1650
Chloromethane (Methyl chloride)	50	41		1	81	13	34-134	20	12/19/2009 1650
Cyclohexane	50	50		1	100	15	53-139	20	12/19/2009 1650
1,2-Dibromo-3-chloropropane (DBCP)	50	61		1	123	2.1	55-125	20	12/19/2009 1650
Dibromochloromethane	50	54		1	107	2.4	66-119	20	12/19/2009 1650
1,2-Dibromoethane (EDB)	50	56		1	112	2.5	74-124	20	12/19/2009 1650
1,2-Dichlorobenzene	50	56		1	111	6.8	57-131	20	12/19/2009 1650
1,4-Dichlorobenzene	50	56		1	111	8.5	52-133	20	12/19/2009 1650
1,3-Dichlorobenzene	50	56		1	111	9.4	51-134	20	12/19/2009 1650
Dichlorodifluoromethane	50	42		1	83	16	10-157	20	12/19/2009 1650
1,2-Dichloroethane	50	53		1	106	3.2	67-129	20	12/19/2009 1650
1,1-Dichloroethane	50	49		1	99	9.2	71-127	20	12/19/2009 1650
1,1-Dichloroethene	50	50		1	100	13	69-138	20	12/19/2009 1650
cis-1,2-Dichloroethene	50	52		1	103	8.2	70-122	20	12/19/2009 1650
trans-1,2-Dichloroethene	50	50		1	99	12	68-131	20	12/19/2009 1650
1,2-Dichloropropane	50	51		1	102	8.0	72-124	20	12/19/2009 1650
trans-1,3-Dichloropropene	50	54		1	109	1.1	70-124	20	12/19/2009 1650
cis-1,3-Dichloropropene	50	52		1	104	4.1	70-126	20	12/19/2009 1650
Ethylbenzene	50	56		1	111	10	59-128	20	12/19/2009 1650
2-Hexanone	100	120		1	118	0.90	54-137	20	12/19/2009 1650
Isopropylbenzene	50	54		1	107	11	50-136	20	12/19/2009 1650
Methyl acetate	50	50		1	99	0.92	59-137	20	12/19/2009 1650
Methyl tertiary butyl ether (MTBE)	50	57		1	115	1.5	72-122	20	12/19/2009 1650
4-Methyl-2-pentanone	100	110		1	112	0.52	60-134	20	12/19/2009 1650
Methylcyclohexane	50	52		1	103	16	41-144	20	12/19/2009 1650
Methylene chloride	50	49		1	97	7.7	77-129	20	12/19/2009 1650
Styrene	50	53		1	106	7.0	54-136	20	12/19/2009 1650
1,1,2,2-Tetrachloroethane	50	58		1	115	2.3	69-132	20	12/19/2009 1650
Tetrachloroethene	50	53		1	106	11	70-130	20	12/19/2009 1650
Toluene	50	54		1	107	9.4	61-129	20	12/19/2009 1650
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	48		1	95	14	49-136	20	12/19/2009 1650
1,2,4-Trichlorobenzene	50	62		1	123	11	34-145	20	12/19/2009 1650
1,1,1-Trichloroethane	50	50		1	101	12	63-128	20	12/19/2009 1650
1,1,2-Trichloroethane	50	55		1	109	2.3	55-128	20	12/19/2009 1650

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ23963-003
Batch: 23963
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	50		1	100	12	62-126	20	12/19/2009 1650
Trichlorofluoromethane	50	48		1	96	16	45-138	20	12/19/2009 1650
Vinyl chloride	50	41	+	1	83	22	42-132	20	12/19/2009 1650
Xylenes (total)	100	100		1	105	9.3	58-128	20	12/19/2009 1650

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		125	47-138
1,2-Dichloroethane-d4		96	53-142
Toluene-d8		115	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24377-001
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/29/2009 1159
Benzene	ND		1	5.0	1.1	ug/kg	12/29/2009 1159
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Bromoform	ND		1	5.0	0.70	ug/kg	12/29/2009 1159
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/29/2009 1159
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/29/2009 1159
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/29/2009 1159
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/29/2009 1159
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Chloroethane	ND		1	5.0	1.3	ug/kg	12/29/2009 1159
Chloroform	ND		1	5.0	0.83	ug/kg	12/29/2009 1159
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/29/2009 1159
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/29/2009 1159
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/29/2009 1159
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/29/2009 1159
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/29/2009 1159
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/29/2009 1159
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/29/2009 1159
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/29/2009 1159
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/29/2009 1159
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/29/2009 1159
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
2-Hexanone	ND		1	10	1.3	ug/kg	12/29/2009 1159
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/29/2009 1159
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/29/2009 1159
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/29/2009 1159
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/29/2009 1159
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/29/2009 1159
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/29/2009 1159
Styrene	ND		1	5.0	1.1	ug/kg	12/29/2009 1159
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/29/2009 1159
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/29/2009 1159
Toluene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/29/2009 1159
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1159
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/29/2009 1159
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/29/2009 1159

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24377-001
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/29/2009 1159
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/29/2009 1159
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/29/2009 1159
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/29/2009 1159

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		85	47-138
1,2-Dichloroethane-d4		67	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24377-002
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	96		1	96	42-149	12/29/2009 1026
Benzene	50	53		1	106	69-123	12/29/2009 1026
Bromodichloromethane	50	54		1	107	69-121	12/29/2009 1026
Bromoform	50	52		1	104	61-119	12/29/2009 1026
Bromomethane (Methyl bromide)	50	54		1	108	35-144	12/29/2009 1026
2-Butanone (MEK)	100	90		1	90	57-148	12/29/2009 1026
Carbon disulfide	50	56		1	111	58-122	12/29/2009 1026
Carbon tetrachloride	50	54		1	109	58-136	12/29/2009 1026
Chlorobenzene	50	55		1	110	59-129	12/29/2009 1026
Chloroethane	50	54		1	108	50-132	12/29/2009 1026
Chloroform	50	54		1	107	71-125	12/29/2009 1026
Chloromethane (Methyl chloride)	50	56		1	112	34-134	12/29/2009 1026
Cyclohexane	50	55		1	109	53-139	12/29/2009 1026
1,2-Dibromo-3-chloropropane (DBCP)	50	55		1	111	55-125	12/29/2009 1026
Dibromochloromethane	50	52		1	104	66-119	12/29/2009 1026
1,2-Dibromoethane (EDB)	50	54		1	108	74-124	12/29/2009 1026
1,4-Dichlorobenzene	50	59		1	117	52-133	12/29/2009 1026
1,3-Dichlorobenzene	50	59		1	117	51-134	12/29/2009 1026
1,2-Dichlorobenzene	50	58		1	116	57-131	12/29/2009 1026
Dichlorodifluoromethane	50	70		1	139	10-157	12/29/2009 1026
1,2-Dichloroethane	50	51		1	102	67-129	12/29/2009 1026
1,1-Dichloroethane	50	52		1	105	71-127	12/29/2009 1026
trans-1,2-Dichloroethene	50	54		1	108	68-131	12/29/2009 1026
cis-1,2-Dichloroethene	50	53		1	106	70-122	12/29/2009 1026
1,1-Dichloroethene	50	54		1	108	69-138	12/29/2009 1026
1,2-Dichloropropane	50	52		1	104	72-124	12/29/2009 1026
trans-1,3-Dichloropropene	50	53		1	105	70-124	12/29/2009 1026
cis-1,3-Dichloropropene	50	51		1	102	70-126	12/29/2009 1026
Ethylbenzene	50	57		1	114	59-128	12/29/2009 1026
2-Hexanone	100	97		1	97	54-137	12/29/2009 1026
Isopropylbenzene	50	58		1	116	50-136	12/29/2009 1026
Methyl acetate	50	43		1	86	59-137	12/29/2009 1026
Methyl tertiary butyl ether (MTBE)	50	52		1	103	72-122	12/29/2009 1026
4-Methyl-2-pentanone	100	98		1	98	60-134	12/29/2009 1026
Methylcyclohexane	50	53		1	106	41-144	12/29/2009 1026
Methylene chloride	50	51		1	103	77-129	12/29/2009 1026
Styrene	50	54		1	109	54-136	12/29/2009 1026
1,1,2,2-Tetrachloroethane	50	57		1	114	69-132	12/29/2009 1026
Tetrachloroethene	50	55		1	110	70-130	12/29/2009 1026
Toluene	50	55		1	109	61-129	12/29/2009 1026
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	51		1	103	49-136	12/29/2009 1026
1,2,4-Trichlorobenzene	50	61		1	122	34-145	12/29/2009 1026
1,1,2-Trichloroethane	50	53		1	106	55-128	12/29/2009 1026
1,1,1-Trichloroethane	50	54		1	107	63-128	12/29/2009 1026

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24377-002
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	54		1	108	62-126	12/29/2009 1026
Trichlorofluoromethane	50	56		1	112	45-138	12/29/2009 1026
Vinyl chloride	50	57		1	113	42-132	12/29/2009 1026
Xylenes (total)	100	110		1	113	58-128	12/29/2009 1026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	47-138
1,2-Dichloroethane-d4		70	53-142
Toluene-d8		86	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24377-003
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	88		1	88	8.6	42-149	20	12/29/2009 1049
Benzene	50	52		1	105	0.56	69-123	20	12/29/2009 1049
Bromodichloromethane	50	55		1	109	1.7	69-121	20	12/29/2009 1049
Bromoform	50	52		1	104	0.14	61-119	20	12/29/2009 1049
Bromomethane (Methyl bromide)	50	52		1	104	3.4	35-144	20	12/29/2009 1049
2-Butanone (MEK)	100	90		1	90	0.21	57-148	20	12/29/2009 1049
Carbon disulfide	50	54		1	109	2.2	58-122	20	12/29/2009 1049
Carbon tetrachloride	50	54		1	107	1.4	58-136	20	12/29/2009 1049
Chlorobenzene	50	55		1	109	0.65	59-129	20	12/29/2009 1049
Chloroethane	50	51		1	102	5.6	50-132	20	12/29/2009 1049
Chloroform	50	53		1	105	1.5	71-125	20	12/29/2009 1049
Chloromethane (Methyl chloride)	50	53		1	105	6.4	34-134	20	12/29/2009 1049
Cyclohexane	50	53		1	107	2.0	53-139	20	12/29/2009 1049
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	116	4.6	55-125	20	12/29/2009 1049
Dibromochloromethane	50	52		1	104	0.28	66-119	20	12/29/2009 1049
1,2-Dibromoethane (EDB)	50	53		1	107	0.72	74-124	20	12/29/2009 1049
1,4-Dichlorobenzene	50	57		1	115	2.0	52-133	20	12/29/2009 1049
1,3-Dichlorobenzene	50	58		1	117	0.23	51-134	20	12/29/2009 1049
1,2-Dichlorobenzene	50	58		1	115	0.51	57-131	20	12/29/2009 1049
Dichlorodifluoromethane	50	68		1	136	2.7	10-157	20	12/29/2009 1049
1,2-Dichloroethane	50	51		1	102	0.57	67-129	20	12/29/2009 1049
1,1-Dichloroethane	50	52		1	104	1.2	71-127	20	12/29/2009 1049
trans-1,2-Dichloroethene	50	53		1	107	1.2	68-131	20	12/29/2009 1049
cis-1,2-Dichloroethene	50	53		1	106	0.63	70-122	20	12/29/2009 1049
1,1-Dichloroethene	50	52		1	105	2.9	69-138	20	12/29/2009 1049
1,2-Dichloropropane	50	52		1	105	0.82	72-124	20	12/29/2009 1049
trans-1,3-Dichloropropene	50	52		1	104	1.3	70-124	20	12/29/2009 1049
cis-1,3-Dichloropropene	50	52		1	104	1.3	70-126	20	12/29/2009 1049
Ethylbenzene	50	56		1	113	1.6	59-128	20	12/29/2009 1049
2-Hexanone	100	100		1	100	3.0	54-137	20	12/29/2009 1049
Isopropylbenzene	50	58		1	115	1.1	50-136	20	12/29/2009 1049
Methyl acetate	50	44		1	87	1.2	59-137	20	12/29/2009 1049
Methyl tertiary butyl ether (MTBE)	50	52		1	104	0.95	72-122	20	12/29/2009 1049
4-Methyl-2-pentanone	100	99		1	99	0.46	60-134	20	12/29/2009 1049
Methylcyclohexane	50	53		1	106	0.24	41-144	20	12/29/2009 1049
Methylene chloride	50	52		1	103	0.54	77-129	20	12/29/2009 1049
Styrene	50	54		1	108	0.51	54-136	20	12/29/2009 1049
1,1,2,2-Tetrachloroethane	50	57		1	115	0.78	69-132	20	12/29/2009 1049
Tetrachloroethene	50	54		1	107	2.1	70-130	20	12/29/2009 1049
Toluene	50	54		1	108	1.2	61-129	20	12/29/2009 1049
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	49		1	99	4.1	49-136	20	12/29/2009 1049
1,2,4-Trichlorobenzene	50	62		1	124	1.9	34-145	20	12/29/2009 1049
1,1,2-Trichloroethane	50	54		1	108	1.6	55-128	20	12/29/2009 1049
1,1,1-Trichloroethane	50	53		1	106	1.5	63-128	20	12/29/2009 1049

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24377-003
Batch: 24377
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	54		1	107	1.1	62-126	20	12/29/2009 1049
Trichlorofluoromethane	50	55		1	109	3.1	45-138	20	12/29/2009 1049
Vinyl chloride	50	51		1	103	9.7	42-132	20	12/29/2009 1049
Xylenes (total)	100	110		1	111	1.9	58-128	20	12/29/2009 1049

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		89	47-138
1,2-Dichloroethane-d4		68	53-142
Toluene-d8		81	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24460-001
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	12/29/2009 2253
Benzene	ND		1	0.50	0.027	ug/L	12/29/2009 2253
Bromodichloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Bromoform	ND		1	0.50	0.010	ug/L	12/29/2009 2253
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	12/29/2009 2253
2-Butanone (MEK)	ND		1	10	2.0	ug/L	12/29/2009 2253
Carbon disulfide	ND		1	0.50	0.097	ug/L	12/29/2009 2253
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	12/29/2009 2253
Chlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Chloroethane	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Chloroform	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Cyclohexane	ND		1	0.50	0.30	ug/L	12/29/2009 2253
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	12/29/2009 2253
Dibromochloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 2253
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	12/29/2009 2253
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	12/29/2009 2253
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	12/29/2009 2253
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	12/29/2009 2253
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	12/29/2009 2253
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	12/29/2009 2253
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	12/29/2009 2253
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	12/29/2009 2253
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	12/29/2009 2253
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	12/29/2009 2253
Ethylbenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
2-Hexanone	ND		1	10	0.27	ug/L	12/29/2009 2253
Isopropylbenzene	ND		1	0.50	0.029	ug/L	12/29/2009 2253
Methyl acetate	ND		1	1.0	0.30	ug/L	12/29/2009 2253
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	12/29/2009 2253
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	12/29/2009 2253
Methylcyclohexane	ND		1	5.0	0.95	ug/L	12/29/2009 2253
Methylene chloride	ND		1	0.50	0.17	ug/L	12/29/2009 2253
Styrene	ND		1	0.50	0.015	ug/L	12/29/2009 2253
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	12/29/2009 2253
Tetrachloroethene	ND		1	0.50	0.014	ug/L	12/29/2009 2253
Toluene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	12/29/2009 2253
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2253
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	12/29/2009 2253
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	12/29/2009 2253

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24460-001
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	12/29/2009 2253
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	12/29/2009 2253
Vinyl chloride	ND		1	0.50	0.065	ug/L	12/29/2009 2253
Xylenes (total)	ND		1	0.50	0.17	ug/L	12/29/2009 2253

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24460-002
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	120		1	117	46-153	12/29/2009 2125
Benzene	50	50		1	99	70-130	12/29/2009 2125
Bromodichloromethane	50	52		1	105	70-130	12/29/2009 2125
Bromoform	50	40		1	80	70-130	12/29/2009 2125
Bromomethane (Methyl bromide)	50	55		1	109	60-140	12/29/2009 2125
2-Butanone (MEK)	100	110		1	109	60-140	12/29/2009 2125
Carbon disulfide	50	51		1	102	60-140	12/29/2009 2125
Carbon tetrachloride	50	50		1	100	70-130	12/29/2009 2125
Chlorobenzene	50	53		1	105	70-130	12/29/2009 2125
Chloroethane	50	54		1	108	42-163	12/29/2009 2125
Chloroform	50	50		1	101	70-130	12/29/2009 2125
Chloromethane (Methyl chloride)	50	49		1	98	20-158	12/29/2009 2125
Cyclohexane	50	56		1	112	70-130	12/29/2009 2125
1,2-Dibromo-3-chloropropane (DBCP)	50	55		1	110	70-130	12/29/2009 2125
Dibromochloromethane	50	54		1	108	70-130	12/29/2009 2125
1,2-Dibromoethane (EDB)	50	53		1	106	70-130	12/29/2009 2125
1,4-Dichlorobenzene	50	54		1	108	70-130	12/29/2009 2125
1,2-Dichlorobenzene	50	52		1	104	70-130	12/29/2009 2125
1,3-Dichlorobenzene	50	54		1	108	70-130	12/29/2009 2125
Dichlorodifluoromethane	50	48		1	96	60-140	12/29/2009 2125
1,2-Dichloroethane	50	50		1	101	70-130	12/29/2009 2125
1,1-Dichloroethane	50	50		1	100	70-130	12/29/2009 2125
cis-1,2-Dichloroethene	50	50		1	101	70-130	12/29/2009 2125
1,1-Dichloroethene	50	49		1	99	70-130	12/29/2009 2125
trans-1,2-Dichloroethene	50	51		1	102	70-130	12/29/2009 2125
1,2-Dichloropropane	50	51		1	103	70-130	12/29/2009 2125
cis-1,3-Dichloropropene	50	49		1	98	70-130	12/29/2009 2125
trans-1,3-Dichloropropene	50	48		1	96	70-130	12/29/2009 2125
Ethylbenzene	50	55		1	110	70-130	12/29/2009 2125
2-Hexanone	100	100		1	102	60-140	12/29/2009 2125
Isopropylbenzene	50	59		1	118	70-130	12/29/2009 2125
Methyl acetate	50	47		1	94	15-128	12/29/2009 2125
Methyl tertiary butyl ether (MTBE)	50	53		1	106	70-130	12/29/2009 2125
4-Methyl-2-pentanone	100	100		1	103	60-140	12/29/2009 2125
Methylcyclohexane	50	55		1	111	70-130	12/29/2009 2125
Methylene chloride	50	49		1	98	70-130	12/29/2009 2125
Styrene	50	58		1	117	70-130	12/29/2009 2125
1,1,2,2-Tetrachloroethane	50	53		1	106	70-130	12/29/2009 2125
Tetrachloroethene	50	53		1	105	70-130	12/29/2009 2125
Toluene	50	54		1	108	70-130	12/29/2009 2125
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	55		1	109	70-130	12/29/2009 2125
1,2,4-Trichlorobenzene	50	60		1	121	70-130	12/29/2009 2125
1,1,2-Trichloroethane	50	53		1	105	70-130	12/29/2009 2125
1,1,1-Trichloroethane	50	53		1	107	70-130	12/29/2009 2125

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24460-002
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	51		1	103	70-130	12/29/2009 2125
Trichlorofluoromethane	50	45		1	90	60-140	12/29/2009 2125
Vinyl chloride	50	50		1	100	60-140	12/29/2009 2125
Xylenes (total)	100	110		1	112	70-130	12/29/2009 2125

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24460-003
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	100		1	103	13	46-153	20	12/29/2009 2147
Benzene	50	45		1	90	9.6	70-130	20	12/29/2009 2147
Bromodichloromethane	50	48		1	96	8.7	70-130	20	12/29/2009 2147
Bromoform	50	36		1	72	10	70-130	20	12/29/2009 2147
Bromomethane (Methyl bromide)	50	49		1	98	10	60-140	20	12/29/2009 2147
2-Butanone (MEK)	100	99		1	99	9.3	60-140	20	12/29/2009 2147
Carbon disulfide	50	45		1	91	12	60-140	20	12/29/2009 2147
Carbon tetrachloride	50	44		1	89	12	70-130	20	12/29/2009 2147
Chlorobenzene	50	49		1	98	6.6	70-130	20	12/29/2009 2147
Chloroethane	50	49		1	97	11	42-163	20	12/29/2009 2147
Chloroform	50	45		1	91	10	70-130	20	12/29/2009 2147
Chloromethane (Methyl chloride)	50	44		1	88	11	20-158	20	12/29/2009 2147
Cyclohexane	50	50		1	100	11	70-130	20	12/29/2009 2147
1,2-Dibromo-3-chloropropane (DBCP)	50	47		1	94	15	70-130	20	12/29/2009 2147
Dibromochloromethane	50	49		1	97	10	70-130	20	12/29/2009 2147
1,2-Dibromoethane (EDB)	50	50		1	99	6.5	70-130	20	12/29/2009 2147
1,4-Dichlorobenzene	50	51		1	102	5.2	70-130	20	12/29/2009 2147
1,2-Dichlorobenzene	50	50		1	100	3.9	70-130	20	12/29/2009 2147
1,3-Dichlorobenzene	50	51		1	102	5.2	70-130	20	12/29/2009 2147
Dichlorodifluoromethane	50	43		1	86	10	60-140	20	12/29/2009 2147
1,2-Dichloroethane	50	47		1	94	7.2	70-130	20	12/29/2009 2147
1,1-Dichloroethane	50	44		1	88	13	70-130	20	12/29/2009 2147
cis-1,2-Dichloroethene	50	45		1	90	11	70-130	20	12/29/2009 2147
1,1-Dichloroethene	50	44		1	87	12	70-130	20	12/29/2009 2147
trans-1,2-Dichloroethene	50	45		1	91	12	70-130	20	12/29/2009 2147
1,2-Dichloropropane	50	48		1	96	7.3	70-130	20	12/29/2009 2147
cis-1,3-Dichloropropene	50	46		1	91	6.8	70-130	20	12/29/2009 2147
trans-1,3-Dichloropropene	50	45		1	90	6.6	70-130	20	12/29/2009 2147
Ethylbenzene	50	52		1	105	4.9	70-130	20	12/29/2009 2147
2-Hexanone	100	98		1	98	3.6	60-140	20	12/29/2009 2147
Isopropylbenzene	50	56		1	113	4.8	70-130	20	12/29/2009 2147
Methyl acetate	50	41		1	83	13	15-128	20	12/29/2009 2147
Methyl tertiary butyl ether (MTBE)	50	47		1	94	13	70-130	20	12/29/2009 2147
4-Methyl-2-pentanone	100	96		1	96	7.4	60-140	20	12/29/2009 2147
Methylcyclohexane	50	51		1	101	8.9	70-130	20	12/29/2009 2147
Methylene chloride	50	44		1	88	11	70-130	20	12/29/2009 2147
Styrene	50	55		1	111	5.4	70-130	20	12/29/2009 2147
1,1,2,2-Tetrachloroethane	50	50		1	99	6.3	70-130	20	12/29/2009 2147
Tetrachloroethene	50	49		1	98	7.2	70-130	20	12/29/2009 2147
Toluene	50	51		1	102	5.9	70-130	20	12/29/2009 2147
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	51		1	102	7.2	70-130	20	12/29/2009 2147
1,2,4-Trichlorobenzene	50	54		1	107	11	70-130	20	12/29/2009 2147
1,1,2-Trichloroethane	50	50		1	100	4.7	70-130	20	12/29/2009 2147
1,1,1-Trichloroethane	50	48		1	96	10	70-130	20	12/29/2009 2147

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24460-003
Batch: 24460
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	47		1	94	8.2	70-130	20	12/29/2009 2147
Trichlorofluoromethane	50	42		1	85	6.6	60-140	20	12/29/2009 2147
Vinyl chloride	50	45		1	90	11	60-140	20	12/29/2009 2147
Xylenes (total)	100	110		1	105	6.5	70-130	20	12/29/2009 2147

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24494-001
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	10	0.061	ug/L	12/29/2009 2225
Benzene	ND		1	0.50	0.027	ug/L	12/29/2009 2225
Bromodichloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Bromoform	ND		1	0.50	0.010	ug/L	12/29/2009 2225
Bromomethane (Methyl bromide)	ND		1	0.50	0.20	ug/L	12/29/2009 2225
2-Butanone (MEK)	ND		1	10	2.0	ug/L	12/29/2009 2225
Carbon disulfide	ND		1	0.50	0.097	ug/L	12/29/2009 2225
Carbon tetrachloride	ND		1	0.50	0.085	ug/L	12/29/2009 2225
Chlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Chloroethane	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Chloroform	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Chloromethane (Methyl chloride)	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Cyclohexane	ND		1	0.50	0.30	ug/L	12/29/2009 2225
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	0.50	0.069	ug/L	12/29/2009 2225
Dibromochloromethane	ND		1	0.50	0.17	ug/L	12/29/2009 2225
1,2-Dibromoethane (EDB)	ND		1	0.50	0.061	ug/L	12/29/2009 2225
1,4-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
1,2-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
1,3-Dichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Dichlorodifluoromethane	ND		1	0.50	0.071	ug/L	12/29/2009 2225
1,2-Dichloroethane	ND		1	0.50	0.023	ug/L	12/29/2009 2225
1,1-Dichloroethane	ND		1	0.50	0.054	ug/L	12/29/2009 2225
cis-1,2-Dichloroethene	ND		1	0.50	0.087	ug/L	12/29/2009 2225
1,1-Dichloroethene	ND		1	0.50	0.094	ug/L	12/29/2009 2225
trans-1,2-Dichloroethene	ND		1	0.50	0.079	ug/L	12/29/2009 2225
1,2-Dichloropropane	ND		1	0.50	0.081	ug/L	12/29/2009 2225
cis-1,3-Dichloropropene	ND		1	0.50	0.090	ug/L	12/29/2009 2225
trans-1,3-Dichloropropene	ND		1	0.50	0.18	ug/L	12/29/2009 2225
Ethylbenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
2-Hexanone	ND		1	10	0.27	ug/L	12/29/2009 2225
Isopropylbenzene	ND		1	0.50	0.029	ug/L	12/29/2009 2225
Methyl acetate	ND		1	1.0	0.30	ug/L	12/29/2009 2225
Methyl tertiary butyl ether (MTBE)	ND		1	0.50	0.019	ug/L	12/29/2009 2225
4-Methyl-2-pentanone	ND		1	10	0.31	ug/L	12/29/2009 2225
Methylcyclohexane	ND		1	5.0	0.95	ug/L	12/29/2009 2225
Methylene chloride	ND		1	0.50	0.17	ug/L	12/29/2009 2225
Styrene	ND		1	0.50	0.015	ug/L	12/29/2009 2225
1,1,2,2-Tetrachloroethane	ND		1	0.50	0.013	ug/L	12/29/2009 2225
Tetrachloroethene	ND		1	0.50	0.014	ug/L	12/29/2009 2225
Toluene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	0.50	0.30	ug/L	12/29/2009 2225
1,2,4-Trichlorobenzene	ND		1	0.50	0.17	ug/L	12/29/2009 2225
1,1,2-Trichloroethane	ND		1	0.50	0.031	ug/L	12/29/2009 2225
1,1,1-Trichloroethane	ND		1	0.50	0.029	ug/L	12/29/2009 2225

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24494-001
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	0.50	0.024	ug/L	12/29/2009 2225
Trichlorofluoromethane	ND		1	0.50	0.051	ug/L	12/29/2009 2225
Vinyl chloride	ND		1	0.50	0.065	ug/L	12/29/2009 2225
Xylenes (total)	ND		1	0.50	0.17	ug/L	12/29/2009 2225

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24494-002
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	110		1	109	46-153	12/29/2009 2101
Benzene	50	48		1	96	70-130	12/29/2009 2101
Bromodichloromethane	50	55		1	111	70-130	12/29/2009 2101
Bromoform	50	63		1	125	70-130	12/29/2009 2101
Bromomethane (Methyl bromide)	50	57		1	113	60-140	12/29/2009 2101
2-Butanone (MEK)	100	110		1	109	60-140	12/29/2009 2101
Carbon disulfide	50	56		1	113	60-140	12/29/2009 2101
Carbon tetrachloride	50	61		1	123	70-130	12/29/2009 2101
Chlorobenzene	50	50		1	100	70-130	12/29/2009 2101
Chloroethane	50	58		1	116	42-163	12/29/2009 2101
Chloroform	50	52		1	103	70-130	12/29/2009 2101
Chloromethane (Methyl chloride)	50	54		1	107	20-158	12/29/2009 2101
Cyclohexane	50	63		1	127	70-130	12/29/2009 2101
1,2-Dibromo-3-chloropropane (DBCP)	50	62		1	125	70-130	12/29/2009 2101
Dibromochloromethane	50	59		1	119	70-130	12/29/2009 2101
1,2-Dibromoethane (EDB)	50	55		1	109	70-130	12/29/2009 2101
1,4-Dichlorobenzene	50	65		1	129	70-130	12/29/2009 2101
1,2-Dichlorobenzene	50	51		1	101	70-130	12/29/2009 2101
1,3-Dichlorobenzene	50	64		1	128	70-130	12/29/2009 2101
Dichlorodifluoromethane	50	62		1	124	60-140	12/29/2009 2101
1,2-Dichloroethane	50	50		1	101	70-130	12/29/2009 2101
1,1-Dichloroethane	50	50		1	101	70-130	12/29/2009 2101
cis-1,2-Dichloroethene	50	50		1	100	70-130	12/29/2009 2101
1,1-Dichloroethene	50	57		1	114	70-130	12/29/2009 2101
trans-1,2-Dichloroethene	50	52		1	105	70-130	12/29/2009 2101
1,2-Dichloropropane	50	51		1	103	70-130	12/29/2009 2101
cis-1,3-Dichloropropene	50	56		1	111	70-130	12/29/2009 2101
trans-1,3-Dichloropropene	50	57		1	115	70-130	12/29/2009 2101
Ethylbenzene	50	53		1	107	70-130	12/29/2009 2101
2-Hexanone	100	100		1	104	60-140	12/29/2009 2101
Isopropylbenzene	50	57		1	114	70-130	12/29/2009 2101
Methyl acetate	50	55		1	111	15-128	12/29/2009 2101
Methyl tertiary butyl ether (MTBE)	50	50		1	100	70-130	12/29/2009 2101
4-Methyl-2-pentanone	100	100		1	101	60-140	12/29/2009 2101
Methylcyclohexane	50	65		1	130	70-130	12/29/2009 2101
Methylene chloride	50	57		1	115	70-130	12/29/2009 2101
Styrene	50	56		1	113	70-130	12/29/2009 2101
1,1,2,2-Tetrachloroethane	50	56		1	112	70-130	12/29/2009 2101
Tetrachloroethene	50	57		1	113	70-130	12/29/2009 2101
Toluene	50	51		1	101	70-130	12/29/2009 2101
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	63		1	126	70-130	12/29/2009 2101
1,2,4-Trichlorobenzene	50	66	N	1	133	70-130	12/29/2009 2101
1,1,2-Trichloroethane	50	54		1	109	70-130	12/29/2009 2101
1,1,1-Trichloroethane	50	57		1	114	70-130	12/29/2009 2101

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24494-002
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	53		1	106	70-130	12/29/2009 2101
Trichlorofluoromethane	50	61		1	121	60-140	12/29/2009 2101
Vinyl chloride	50	53		1	105	60-140	12/29/2009 2101
Xylenes (total)	100	110		1	107	70-130	12/29/2009 2101

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24494-003
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	120		1	116	6.3	46-153	20	12/29/2009 2122
Benzene	50	47		1	95	1.8	70-130	20	12/29/2009 2122
Bromodichloromethane	50	54		1	109	1.9	70-130	20	12/29/2009 2122
Bromoform	50	63		1	126	0.65	70-130	20	12/29/2009 2122
Bromomethane (Methyl bromide)	50	53		1	106	7.0	60-140	20	12/29/2009 2122
2-Butanone (MEK)	100	110		1	113	2.9	60-140	20	12/29/2009 2122
Carbon disulfide	50	57		1	113	0.13	60-140	20	12/29/2009 2122
Carbon tetrachloride	50	61		1	122	1.0	70-130	20	12/29/2009 2122
Chlorobenzene	50	49		1	98	2.2	70-130	20	12/29/2009 2122
Chloroethane	50	58		1	116	0.17	42-163	20	12/29/2009 2122
Chloroform	50	51		1	101	1.5	70-130	20	12/29/2009 2122
Chloromethane (Methyl chloride)	50	55		1	109	1.8	20-158	20	12/29/2009 2122
Cyclohexane	50	62		1	125	1.5	70-130	20	12/29/2009 2122
1,2-Dibromo-3-chloropropane (DBCP)	50	64		1	129	3.3	70-130	20	12/29/2009 2122
Dibromochloromethane	50	59		1	118	0.62	70-130	20	12/29/2009 2122
1,2-Dibromoethane (EDB)	50	54		1	108	0.70	70-130	20	12/29/2009 2122
1,4-Dichlorobenzene	50	63		1	126	2.8	70-130	20	12/29/2009 2122
1,2-Dichlorobenzene	50	49		1	98	2.9	70-130	20	12/29/2009 2122
1,3-Dichlorobenzene	50	63		1	126	2.2	70-130	20	12/29/2009 2122
Dichlorodifluoromethane	50	61		1	121	2.6	60-140	20	12/29/2009 2122
1,2-Dichloroethane	50	50		1	101	0.25	70-130	20	12/29/2009 2122
1,1-Dichloroethane	50	50		1	100	0.67	70-130	20	12/29/2009 2122
cis-1,2-Dichloroethene	50	49		1	99	1.1	70-130	20	12/29/2009 2122
1,1-Dichloroethene	50	57		1	114	0.27	70-130	20	12/29/2009 2122
trans-1,2-Dichloroethene	50	52		1	103	1.4	70-130	20	12/29/2009 2122
1,2-Dichloropropane	50	51		1	102	0.95	70-130	20	12/29/2009 2122
cis-1,3-Dichloropropene	50	55		1	110	1.4	70-130	20	12/29/2009 2122
trans-1,3-Dichloropropene	50	57		1	114	0.32	70-130	20	12/29/2009 2122
Ethylbenzene	50	52		1	104	2.4	70-130	20	12/29/2009 2122
2-Hexanone	100	110		1	109	4.4	60-140	20	12/29/2009 2122
Isopropylbenzene	50	56		1	111	2.4	70-130	20	12/29/2009 2122
Methyl acetate	50	57		1	113	2.2	15-128	20	12/29/2009 2122
Methyl tertiary butyl ether (MTBE)	50	50		1	101	0.99	70-130	20	12/29/2009 2122
4-Methyl-2-pentanone	100	110		1	105	3.7	60-140	20	12/29/2009 2122
Methylcyclohexane	50	64		1	128	1.7	70-130	20	12/29/2009 2122
Methylene chloride	50	56		1	113	1.5	70-130	20	12/29/2009 2122
Styrene	50	55		1	111	1.9	70-130	20	12/29/2009 2122
1,1,2,2-Tetrachloroethane	50	57		1	115	2.6	70-130	20	12/29/2009 2122
Tetrachloroethene	50	55		1	110	2.5	70-130	20	12/29/2009 2122
Toluene	50	50		1	100	1.8	70-130	20	12/29/2009 2122
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	62		1	124	1.9	70-130	20	12/29/2009 2122
1,2,4-Trichlorobenzene	50	65		1	130	2.3	70-130	20	12/29/2009 2122
1,1,2-Trichloroethane	50	54		1	108	0.85	70-130	20	12/29/2009 2122
1,1,1-Trichloroethane	50	56		1	113	1.3	70-130	20	12/29/2009 2122

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24494-003
Batch: 24494
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	52		1	103	2.9	70-130	20	12/29/2009 2122
Trichlorofluoromethane	50	59		1	118	2.4	60-140	20	12/29/2009 2122
Vinyl chloride	50	53		1	105	0.24	60-140	20	12/29/2009 2122
Xylenes (total)	100	100		1	104	2.2	70-130	20	12/29/2009 2122

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24560-001
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/29/2009 1242
Benzene	ND		1	5.0	1.1	ug/kg	12/29/2009 1242
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
Bromoform	ND		1	5.0	0.70	ug/kg	12/29/2009 1242
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/29/2009 1242
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/29/2009 1242
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/29/2009 1242
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/29/2009 1242
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
Chloroethane	ND		1	5.0	1.3	ug/kg	12/29/2009 1242
Chloroform	ND		1	5.0	0.83	ug/kg	12/29/2009 1242
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/29/2009 1242
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/29/2009 1242
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/29/2009 1242
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/29/2009 1242
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/29/2009 1242
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/29/2009 1242
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/29/2009 1242
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/29/2009 1242
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/29/2009 1242
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/29/2009 1242
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/29/2009 1242
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/29/2009 1242
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
2-Hexanone	ND		1	10	1.3	ug/kg	12/29/2009 1242
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/29/2009 1242
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/29/2009 1242
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/29/2009 1242
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/29/2009 1242
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/29/2009 1242
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/29/2009 1242
Styrene	ND		1	5.0	1.1	ug/kg	12/29/2009 1242
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/29/2009 1242
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/29/2009 1242
Toluene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/29/2009 1242
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/29/2009 1242
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/29/2009 1242
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/29/2009 1242

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ24560-001
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/29/2009 1242
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/29/2009 1242
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/29/2009 1242
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/29/2009 1242

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	47-138
1,2-Dichloroethane-d4		120	53-142
Toluene-d8		105	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24560-002
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	59		1	59	42-149	12/29/2009 1112
Benzene	50	45		1	89	69-123	12/29/2009 1112
Bromodichloromethane	50	47		1	95	69-121	12/29/2009 1112
Bromoform	50	44		1	88	61-119	12/29/2009 1112
Bromomethane (Methyl bromide)	50	52		1	104	35-144	12/29/2009 1112
2-Butanone (MEK)	100	79		1	79	57-148	12/29/2009 1112
Carbon disulfide	50	50		1	100	58-122	12/29/2009 1112
Carbon tetrachloride	50	48		1	95	58-136	12/29/2009 1112
Chlorobenzene	50	45		1	90	59-129	12/29/2009 1112
Chloroethane	50	51		1	103	50-132	12/29/2009 1112
Chloroform	50	46		1	92	71-125	12/29/2009 1112
Chloromethane (Methyl chloride)	50	43		1	85	34-134	12/29/2009 1112
Cyclohexane	50	48		1	97	53-139	12/29/2009 1112
1,2-Dibromo-3-chloropropane (DBCP)	50	33		1	66	55-125	12/29/2009 1112
Dibromochloromethane	50	46		1	92	66-119	12/29/2009 1112
1,2-Dibromoethane (EDB)	50	41		1	83	74-124	12/29/2009 1112
1,4-Dichlorobenzene	50	46		1	91	52-133	12/29/2009 1112
1,3-Dichlorobenzene	50	47		1	94	51-134	12/29/2009 1112
1,2-Dichlorobenzene	50	44		1	89	57-131	12/29/2009 1112
Dichlorodifluoromethane	50	39		1	78	10-157	12/29/2009 1112
1,2-Dichloroethane	50	43		1	86	67-129	12/29/2009 1112
1,1-Dichloroethane	50	47		1	93	71-127	12/29/2009 1112
trans-1,2-Dichloroethene	50	45		1	90	68-131	12/29/2009 1112
cis-1,2-Dichloroethene	50	44		1	87	70-122	12/29/2009 1112
1,1-Dichloroethene	50	45		1	89	69-138	12/29/2009 1112
1,2-Dichloropropane	50	45		1	91	72-124	12/29/2009 1112
trans-1,3-Dichloropropene	50	45		1	91	70-124	12/29/2009 1112
cis-1,3-Dichloropropene	50	46		1	93	70-126	12/29/2009 1112
Ethylbenzene	50	47		1	94	59-128	12/29/2009 1112
2-Hexanone	100	68		1	68	54-137	12/29/2009 1112
Isopropylbenzene	50	47		1	94	50-136	12/29/2009 1112
Methyl acetate	50	46		1	92	59-137	12/29/2009 1112
Methyl tertiary butyl ether (MTBE)	50	40		1	80	72-122	12/29/2009 1112
4-Methyl-2-pentanone	100	72		1	72	60-134	12/29/2009 1112
Methylcyclohexane	50	49		1	98	41-144	12/29/2009 1112
Methylene chloride	50	44		1	87	77-129	12/29/2009 1112
Styrene	50	47		1	94	54-136	12/29/2009 1112
1,1,2,2-Tetrachloroethane	50	40		1	80	69-132	12/29/2009 1112
Tetrachloroethene	50	47		1	93	70-130	12/29/2009 1112
Toluene	50	47		1	93	61-129	12/29/2009 1112
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	47		1	93	49-136	12/29/2009 1112
1,2,4-Trichlorobenzene	50	42		1	84	34-145	12/29/2009 1112
1,1,2-Trichloroethane	50	42		1	85	55-128	12/29/2009 1112
1,1,1-Trichloroethane	50	47		1	94	63-128	12/29/2009 1112

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ24560-002
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	46		1	92	62-126	12/29/2009 1112
Trichlorofluoromethane	50	47		1	94	45-138	12/29/2009 1112
Vinyl chloride	50	51		1	102	42-132	12/29/2009 1112
Xylenes (total)	100	94		1	94	58-128	12/29/2009 1112

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		86	47-138
1,2-Dichloroethane-d4		94	53-142
Toluene-d8		99	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24560-003
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	99	+	1	99	51	42-149	20	12/29/2009 1135
Benzene	50	50		1	101	12	69-123	20	12/29/2009 1135
Bromodichloromethane	50	55		1	110	15	69-121	20	12/29/2009 1135
Bromoform	50	54	+	1	108	21	61-119	20	12/29/2009 1135
Bromomethane (Methyl bromide)	50	57		1	114	9.3	35-144	20	12/29/2009 1135
2-Butanone (MEK)	100	110	+	1	105	29	57-148	20	12/29/2009 1135
Carbon disulfide	50	54		1	108	8.2	58-122	20	12/29/2009 1135
Carbon tetrachloride	50	54		1	108	12	58-136	20	12/29/2009 1135
Chlorobenzene	50	52		1	103	14	59-129	20	12/29/2009 1135
Chloroethane	50	56		1	111	8.0	50-132	20	12/29/2009 1135
Chloroform	50	52		1	104	12	71-125	20	12/29/2009 1135
Chloromethane (Methyl chloride)	50	65	+	1	130	42	34-134	20	12/29/2009 1135
Cyclohexane	50	54		1	109	12	53-139	20	12/29/2009 1135
1,2-Dibromo-3-chloropropane (DBCP)	50	50	+	1	101	42	55-125	20	12/29/2009 1135
Dibromochloromethane	50	53		1	107	15	66-119	20	12/29/2009 1135
1,2-Dibromoethane (EDB)	50	49		1	97	16	74-124	20	12/29/2009 1135
1,4-Dichlorobenzene	50	54		1	108	17	52-133	20	12/29/2009 1135
1,3-Dichlorobenzene	50	57		1	114	19	51-134	20	12/29/2009 1135
1,2-Dichlorobenzene	50	55		1	109	20	57-131	20	12/29/2009 1135
Dichlorodifluoromethane	50	44		1	88	12	10-157	20	12/29/2009 1135
1,2-Dichloroethane	50	49		1	98	13	67-129	20	12/29/2009 1135
1,1-Dichloroethane	50	52		1	104	11	71-127	20	12/29/2009 1135
trans-1,2-Dichloroethene	50	49		1	98	9.2	68-131	20	12/29/2009 1135
cis-1,2-Dichloroethene	50	49		1	98	12	70-122	20	12/29/2009 1135
1,1-Dichloroethene	50	49		1	99	10	69-138	20	12/29/2009 1135
1,2-Dichloropropane	50	52		1	105	14	72-124	20	12/29/2009 1135
trans-1,3-Dichloropropene	50	52		1	103	13	70-124	20	12/29/2009 1135
cis-1,3-Dichloropropene	50	53		1	107	14	70-126	20	12/29/2009 1135
Ethylbenzene	50	54		1	108	14	59-128	20	12/29/2009 1135
2-Hexanone	100	96	+	1	96	35	54-137	20	12/29/2009 1135
Isopropylbenzene	50	56		1	111	17	50-136	20	12/29/2009 1135
Methyl acetate	50	59	+	1	118	25	59-137	20	12/29/2009 1135
Methyl tertiary butyl ether (MTBE)	50	48		1	97	19	72-122	20	12/29/2009 1135
4-Methyl-2-pentanone	100	100	+	1	104	36	60-134	20	12/29/2009 1135
Methylcyclohexane	50	56		1	113	14	41-144	20	12/29/2009 1135
Methylene chloride	50	49		1	97	11	77-129	20	12/29/2009 1135
Styrene	50	55		1	109	15	54-136	20	12/29/2009 1135
1,1,2,2-Tetrachloroethane	50	51	+	1	102	24	69-132	20	12/29/2009 1135
Tetrachloroethene	50	53		1	106	12	70-130	20	12/29/2009 1135
Toluene	50	54		1	108	14	61-129	20	12/29/2009 1135
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	52		1	103	10	49-136	20	12/29/2009 1135
1,2,4-Trichlorobenzene	50	52	+	1	104	21	34-145	20	12/29/2009 1135
1,1,2-Trichloroethane	50	50		1	99	16	55-128	20	12/29/2009 1135
1,1,1-Trichloroethane	50	54		1	107	13	63-128	20	12/29/2009 1135

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ24560-003
Batch: 24560
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	53		1	105	13	62-126	20	12/29/2009 1135
Trichlorofluoromethane	50	51		1	102	8.6	45-138	20	12/29/2009 1135
Vinyl chloride	50	62		1	124	19	42-132	20	12/29/2009 1135
Xylenes (total)	100	110		1	108	14	58-128	20	12/29/2009 1135

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	47-138
1,2-Dichloroethane-d4		100	53-142
Toluene-d8		106	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24599-001
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	6.7	ug/kg	12/30/2009 2323
Benzene	ND		1	5.0	1.1	ug/kg	12/30/2009 2323
Bromodichloromethane	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Bromoform	ND		1	5.0	0.70	ug/kg	12/30/2009 2323
Bromomethane (Methyl bromide)	ND		1	5.0	1.8	ug/kg	12/30/2009 2323
2-Butanone (MEK)	ND		1	10	2.4	ug/kg	12/30/2009 2323
Carbon disulfide	ND		1	5.0	1.3	ug/kg	12/30/2009 2323
Carbon tetrachloride	ND		1	5.0	1.8	ug/kg	12/30/2009 2323
Chlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Chloroethane	ND		1	5.0	1.3	ug/kg	12/30/2009 2323
Chloroform	ND		1	5.0	0.83	ug/kg	12/30/2009 2323
Chloromethane (Methyl chloride)	ND		1	5.0	1.0	ug/kg	12/30/2009 2323
Cyclohexane	ND		1	5.0	0.67	ug/kg	12/30/2009 2323
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
Dibromochloromethane	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,2-Dibromoethane (EDB)	ND		1	5.0	0.85	ug/kg	12/30/2009 2323
1,3-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,4-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,2-Dichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
Dichlorodifluoromethane	ND		1	5.0	1.6	ug/kg	12/30/2009 2323
1,2-Dichloroethane	ND		1	5.0	1.0	ug/kg	12/30/2009 2323
1,1-Dichloroethane	ND		1	5.0	0.73	ug/kg	12/30/2009 2323
trans-1,2-Dichloroethene	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
1,1-Dichloroethene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
cis-1,2-Dichloroethene	ND		1	5.0	0.76	ug/kg	12/30/2009 2323
1,2-Dichloropropane	ND		1	5.0	0.91	ug/kg	12/30/2009 2323
cis-1,3-Dichloropropene	ND		1	5.0	0.68	ug/kg	12/30/2009 2323
trans-1,3-Dichloropropene	ND		1	5.0	0.82	ug/kg	12/30/2009 2323
Ethylbenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
2-Hexanone	ND		1	10	1.3	ug/kg	12/30/2009 2323
Isopropylbenzene	ND		1	5.0	0.80	ug/kg	12/30/2009 2323
Methyl acetate	ND		1	5.0	0.67	ug/kg	12/30/2009 2323
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/kg	12/30/2009 2323
4-Methyl-2-pentanone	ND		1	10	1.5	ug/kg	12/30/2009 2323
Methylcyclohexane	ND		1	5.0	0.61	ug/kg	12/30/2009 2323
Methylene chloride	ND		1	5.0	2.6	ug/kg	12/30/2009 2323
Styrene	ND		1	5.0	1.1	ug/kg	12/30/2009 2323
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.47	ug/kg	12/30/2009 2323
Tetrachloroethene	ND		1	5.0	2.3	ug/kg	12/30/2009 2323
Toluene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	2.1	ug/kg	12/30/2009 2323
1,2,4-Trichlorobenzene	ND		1	5.0	1.7	ug/kg	12/30/2009 2323
1,1,2-Trichloroethane	ND		1	5.0	0.79	ug/kg	12/30/2009 2323
1,1,1-Trichloroethane	ND		1	5.0	0.85	ug/kg	12/30/2009 2323

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - MB

Sample ID: LQ24599-001
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	1.9	ug/kg	12/30/2009 2323
Trichlorofluoromethane	ND		1	5.0	1.5	ug/kg	12/30/2009 2323
Vinyl chloride	ND		1	5.0	0.86	ug/kg	12/30/2009 2323
Xylenes (total)	ND		1	5.0	2.9	ug/kg	12/30/2009 2323

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		85	47-138
1,2-Dichloroethane-d4		70	53-142
Toluene-d8		82	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24599-002
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	110		1	109	42-149	12/30/2009 2207
Benzene	50	49		1	97	69-123	12/30/2009 2207
Bromodichloromethane	50	54		1	107	69-121	12/30/2009 2207
Bromoform	50	53		1	107	61-119	12/30/2009 2207
Bromomethane (Methyl bromide)	50	48		1	95	35-144	12/30/2009 2207
2-Butanone (MEK)	100	96		1	96	57-148	12/30/2009 2207
Carbon disulfide	50	47		1	94	58-122	12/30/2009 2207
Carbon tetrachloride	50	46		1	92	58-136	12/30/2009 2207
Chlorobenzene	50	49		1	98	59-129	12/30/2009 2207
Chloroethane	50	48		1	97	50-132	12/30/2009 2207
Chloroform	50	52		1	104	71-125	12/30/2009 2207
Chloromethane (Methyl chloride)	50	41		1	81	34-134	12/30/2009 2207
Cyclohexane	50	44		1	88	53-139	12/30/2009 2207
1,2-Dibromo-3-chloropropane (DBCP)	50	58		1	117	55-125	12/30/2009 2207
Dibromochloromethane	50	53		1	106	66-119	12/30/2009 2207
1,2-Dibromoethane (EDB)	50	56		1	111	74-124	12/30/2009 2207
1,3-Dichlorobenzene	50	45		1	90	51-134	12/30/2009 2207
1,4-Dichlorobenzene	50	43		1	87	52-133	12/30/2009 2207
1,2-Dichlorobenzene	50	48		1	96	57-131	12/30/2009 2207
Dichlorodifluoromethane	50	54		1	109	10-157	12/30/2009 2207
1,2-Dichloroethane	50	52		1	105	67-129	12/30/2009 2207
1,1-Dichloroethane	50	50		1	100	71-127	12/30/2009 2207
trans-1,2-Dichloroethene	50	48		1	95	68-131	12/30/2009 2207
1,1-Dichloroethene	50	46		1	91	69-138	12/30/2009 2207
cis-1,2-Dichloroethene	50	51		1	102	70-122	12/30/2009 2207
1,2-Dichloropropane	50	51		1	102	72-124	12/30/2009 2207
cis-1,3-Dichloropropene	50	48		1	96	70-126	12/30/2009 2207
trans-1,3-Dichloropropene	50	50		1	101	70-124	12/30/2009 2207
Ethylbenzene	50	49		1	97	59-128	12/30/2009 2207
2-Hexanone	100	110		1	114	54-137	12/30/2009 2207
Isopropylbenzene	50	48		1	96	50-136	12/30/2009 2207
Methyl acetate	50	47		1	94	59-137	12/30/2009 2207
Methyl tertiary butyl ether (MTBE)	50	56		1	113	72-122	12/30/2009 2207
4-Methyl-2-pentanone	100	100		1	103	60-134	12/30/2009 2207
Methylcyclohexane	50	39		1	78	41-144	12/30/2009 2207
Methylene chloride	50	53		1	105	77-129	12/30/2009 2207
Styrene	50	48		1	95	54-136	12/30/2009 2207
1,1,2,2-Tetrachloroethane	50	52		1	105	69-132	12/30/2009 2207
Tetrachloroethene	50	42		1	84	70-130	12/30/2009 2207
Toluene	50	48		1	95	61-129	12/30/2009 2207
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	39		1	78	49-136	12/30/2009 2207
1,2,4-Trichlorobenzene	50	37		1	74	34-145	12/30/2009 2207
1,1,2-Trichloroethane	50	57		1	115	55-128	12/30/2009 2207
1,1,1-Trichloroethane	50	48		1	96	63-128	12/30/2009 2207

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCS

Sample ID: LQ24599-002
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	50		1	100	62-126	12/30/2009 2207
Trichlorofluoromethane	50	45		1	90	45-138	12/30/2009 2207
Vinyl chloride	50	40		1	80	42-132	12/30/2009 2207
Xylenes (total)	100	96		1	96	58-128	12/30/2009 2207

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	47-138
1,2-Dichloroethane-d4		72	53-142
Toluene-d8		84	68-124

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24599-003
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Acetone	100	110		1	106	2.7	42-149	20	12/30/2009 2230
Benzene	50	48		1	96	1.1	69-123	20	12/30/2009 2230
Bromodichloromethane	50	54		1	108	0.26	69-121	20	12/30/2009 2230
Bromoform	50	53		1	106	0.99	61-119	20	12/30/2009 2230
Bromomethane (Methyl bromide)	50	50		1	100	5.1	35-144	20	12/30/2009 2230
2-Butanone (MEK)	100	99		1	99	2.7	57-148	20	12/30/2009 2230
Carbon disulfide	50	45		1	91	3.2	58-122	20	12/30/2009 2230
Carbon tetrachloride	50	45		1	89	3.1	58-136	20	12/30/2009 2230
Chlorobenzene	50	48		1	95	2.6	59-129	20	12/30/2009 2230
Chloroethane	50	47		1	93	3.5	50-132	20	12/30/2009 2230
Chloroform	50	51		1	101	2.9	71-125	20	12/30/2009 2230
Chloromethane (Methyl chloride)	50	40		1	79	2.2	34-134	20	12/30/2009 2230
Cyclohexane	50	42		1	83	6.0	53-139	20	12/30/2009 2230
1,2-Dibromo-3-chloropropane (DBCP)	50	61		1	122	4.3	55-125	20	12/30/2009 2230
Dibromochloromethane	50	52		1	105	1.5	66-119	20	12/30/2009 2230
1,2-Dibromoethane (EDB)	50	55		1	111	0.39	74-124	20	12/30/2009 2230
1,3-Dichlorobenzene	50	44		1	88	3.2	51-134	20	12/30/2009 2230
1,4-Dichlorobenzene	50	43		1	87	0.33	52-133	20	12/30/2009 2230
1,2-Dichlorobenzene	50	48		1	97	0.61	57-131	20	12/30/2009 2230
Dichlorodifluoromethane	50	53		1	106	3.0	10-157	20	12/30/2009 2230
1,2-Dichloroethane	50	52		1	104	0.58	67-129	20	12/30/2009 2230
1,1-Dichloroethane	50	49		1	98	2.8	71-127	20	12/30/2009 2230
trans-1,2-Dichloroethene	50	46		1	93	2.8	68-131	20	12/30/2009 2230
1,1-Dichloroethene	50	44		1	89	2.9	69-138	20	12/30/2009 2230
cis-1,2-Dichloroethene	50	50		1	100	1.4	70-122	20	12/30/2009 2230
1,2-Dichloropropane	50	51		1	102	0.57	72-124	20	12/30/2009 2230
cis-1,3-Dichloropropene	50	49		1	97	1.3	70-126	20	12/30/2009 2230
trans-1,3-Dichloropropene	50	49		1	99	1.9	70-124	20	12/30/2009 2230
Ethylbenzene	50	47		1	94	3.7	59-128	20	12/30/2009 2230
2-Hexanone	100	110		1	110	3.5	54-137	20	12/30/2009 2230
Isopropylbenzene	50	46		1	93	3.3	50-136	20	12/30/2009 2230
Methyl acetate	50	47		1	94	0.72	59-137	20	12/30/2009 2230
Methyl tertiary butyl ether (MTBE)	50	56		1	111	1.0	72-122	20	12/30/2009 2230
4-Methyl-2-pentanone	100	110		1	106	2.8	60-134	20	12/30/2009 2230
Methylcyclohexane	50	37		1	75	4.5	41-144	20	12/30/2009 2230
Methylene chloride	50	51		1	102	3.0	77-129	20	12/30/2009 2230
Styrene	50	47		1	94	1.2	54-136	20	12/30/2009 2230
1,1,2,2-Tetrachloroethane	50	53		1	106	1.3	69-132	20	12/30/2009 2230
Tetrachloroethene	50	40		1	79	5.5	70-130	20	12/30/2009 2230
Toluene	50	48		1	95	0.029	61-129	20	12/30/2009 2230
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	37		1	74	5.6	49-136	20	12/30/2009 2230
1,2,4-Trichlorobenzene	50	37		1	75	1.3	34-145	20	12/30/2009 2230
1,1,2-Trichloroethane	50	56		1	111	3.4	55-128	20	12/30/2009 2230
1,1,1-Trichloroethane	50	46		1	92	4.1	63-128	20	12/30/2009 2230

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: LQ24599-003
Batch: 24599
Analytical Method: 8260B

Matrix: Solid
Prep Method: 5035

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Trichloroethene	50	49		1	99	1.2	62-126	20	12/30/2009 2230
Trichlorofluoromethane	50	44		1	88	2.5	45-138	20	12/30/2009 2230
Vinyl chloride	50	38		1	76	4.8	42-132	20	12/30/2009 2230
Xylenes (total)	100	93		1	93	3.2	58-128	20	12/30/2009 2230

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	47-138
1,2-Dichloroethane-d4		74	53-142
Toluene-d8		88	68-124

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 101506

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bostian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Drive #300	Sampler's Signature: X	Waybill No.	Page 1 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAFS.H17B. DG-0F1	P.O. No.		Lot No.: KL1874

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	Grab G / Composite C	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	SDS Kit	8260 VOCs	Remarks / Cooler I.D.
H17-AF103(121609)-(34-35)	12-16-09	0900	G		X							X	5	
H17-AF103(121609)-(44-45)	12-16-09	0905	G		X							X	5	
H17-AF104(121609)-(24-25)	12-16-09	1035	G		X							X	5	
H17-AF104(121609)-(34-35)	12-16-09	1045	G		X							X	5	
H17-AF104(121609)-(44-45)	12-16-09	1050	G		X							X	5	
H17-AF105(121609)-(34-35)	12-16-09	1605	G		X							X	5	
H17-AF105(121609)-(44-45)	12-16-09	1610	G		X							X	5	
H17-AF105(121609-(41-45	12-16-09	1645	G	X						X			3	
H17-AF107(121709)-(34-35)	12-17-09	1000	G	X	X							X	5	
H17-AF107(121709)-(44-45)	12-17-09	1005	G		X							X	5	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by	12-17-09	1800	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by FEDEX	12-18-09	0836	3. Laboratory received by	12-18-09	0832

Comments:

LAB USE ONLY: Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 2.6 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1
SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 101507

Client: Arcadis	Report to Contact: Scott Bostian	Telephone No. / Fax No. / E-mail: 919-854-1282 / scott.bostian@arcadis-us.com	Quote No.
Address: 801 Corporate Center Dr. #300	Sampler's Signature: X [signature]	Waybill No.	Page 2 of 2
City: Raleigh / State: NC / Zip Code: 27607	Printed Name: Josh Frizzell	Analysis (Attach list if more space is needed.)	
Project Name: HAA-17			
Project No.: GP08HAFS, H17B. DGOF1	P.O. No.		Lot No.: KL18024

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	8260 VOCs	Remarks / Cooler I.D.
H17-AF107(121709)-(41-45)	12-17-09	1010	G	X						X			3	
H17-A														JDF 12-17-09
H17-PF2(121709)-(41-45)	12-17-09	1145	G	X						X			3	
H17-AF108(121709)-(34-35)	12-17-09	1500	G		X							X	5	
H17-AF108(121709)-(44-45)	12-17-09	1505	G		X							X	5	
H17-AF108(121709)-(41-45)	12-17-09	1525	G	X						X			3	
H17-AF104(121709)-(41-45)	12-17-09	1630	G	X						X			3	
					JDF					12-17-2009				
Trip Blank				X						X			3	JDF 12-17-09

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☒ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: [signature]	12-17-09	1800	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by: FEDEX	12/18/09	0836	3. Laboratory received by: [signature]	12-18-09	0832

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. _____ °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Document Number: F-AD-012 Effective Date: 08-04-02

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com
Level 1 Report v2.1

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: ETC 12/18/09 Lot #: KL18024

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☒ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☑	NA ☐	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 2.6 °C / / °C / / °C / / °C / / °C / / °C / / °C / / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

Analytical data were evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), analytical method control criteria, the analytical laboratory Quality Assurance Control Limits, the Fort Stewart Military Reservation and Hunter Army Airfield Quality Assurance Project Plan (ARCADIS-2008), and professional judgment.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
    1. Method blanks,
    2. Trip blanks,
    3. Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manual review was performed for the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and
- Laboratory Duplicates

Data was generated by Shealy Environmental Services, Inc. – West Columbia, South Carolina. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in these SDGs are considered usable as reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the above guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

U Not detected at the quantitative reporting limit

DQM RUN BY:	Rachelle Borne	02/16/10
REVIEW PERFORMED BY:	Rachelle Borne	02/21/10
SIGNATURE:	Rachelle Borne	02/22/10
PEER REVIEW:	Dennis Capria	02/22/10

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

The following samples were included in this SDG:

SDG	Sample ID	Sample Date	Parent Sample
KL13004	H17-AF101 (121009)-(24-25)	12/10/2009	
KL13004	H17-AF101 (121009)-(34-35)	12/10/2009	
KL13004	H17-AF61 (120909)-(36-37)	12/9/2009	
KL13004	H17-AF61 (120909)-(41-42)	12/9/2009	
KL13004	H17-AF61 (120909)-(48-49)	12/9/2009	
KL13004	H17-AF61(120909)-(22-23)	12/9/2009	
KL13004	H17-PF1 (121109)-(34-35)	12/11/2009	
KL13004	H17-PF1 (121109)-(44-45)	12/11/2009	
KL13004	H17-PF1 (121109)-(6-7)	12/11/2009	
KL13004	H17-PF2 (121009)-(34-35)	12/10/2009	
KL13004	H17-PF2 (121009)-(44-45)	12/10/2009	
KL13004	H17-PF3 (121109)-(2-3)	12/11/2009	
KL13004	H17-PF3 (121109)-(6-7)	12/11/2009	
KL16030	H17-FD2 (121509)-(41-45)	12/15/2009	
KL16030	H17-FD3 (121409)-(34-35)	12/14/2009	
KL16030	H17-FD3 (121409)-(44-45)	12/14/2009	
KL16030	H17-FD3 (121509)-(41-45)	12/15/2009	
KL16030	H17-PF1 (121509)-(41-45)	12/15/2009	
KL16030	H17-PF4 (121409)-(34-35)	12/14/2009	
KL16030	H17-PF4 (121509)-(41-45)	12/15/2009	
KL16030	H17-PF4(121409)-(44-45)	12/14/2009	
KL16030	TRIP BLANK (121609)	12/16/2009	
KL16030	H17-AF102 (121509)-(34-35)	12/15/2009	
KL16030	H17-AF102 (121509)-(41-45)	12/15/2009	
KL16030	H17-AF102 (121509)-(44-45)	12/15/2009	
KL16030	H17-AF103 (121509)-(41-45)	12/15/2009	
KL16030	H17-FD1 (121409)-(34-35)	12/14/2009	
KL16030	H17-FD1 (121409)-(44-45)	12/14/2009	
KL16030	H17-FD1 (121509)-(41-45)	12/15/2009	
KL16030	H17-FD2 (121409)-(34-45)	12/14/2009	
KL16030	H17-FD2 (121409)-(44-45)	12/14/2009	
KL18024	H17-AF103 (121609)- (34-35)	12/16/2009	
KL18024	H17-AF103 (121609)- (44-45)	12/16/2009	
KL18024	H17-AF104 (121609)- (24-25)	12/16/2009	
KL18024	H17-AF104 (121609)- (34-35)	12/16/2009	
KL18024	H17-AF104 (121609)- (44-45)	12/16/2009	
KL18024	H17-AF104 (121709)- (41-45)	12/17/2009	
KL18024	H17-AF105 (121609)- (34-35)	12/16/2009	
KL18024	H17-AF105 (121609)- (41-45)	12/16/2009	
KL18024	H17-AF105 (121609)- (44-45)	12/16/2009	
KL18024	H17-AF107 (121709)- (34-35)	12/17/2009	
KL18024	H17-AF107 (121709)- (41-45)	12/17/2009	

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

SDG	Sample ID	Sample Date	Parent Sample
KL18024	H17-AF107 (121709)- (44-45)	12/17/2009	
KL18024	H17-AF108 (121709)- (34-35)	12/17/2009	
KL18024	H17-AF108 (121709)- (41-45)	12/17/2009	
KL18024	H17-AF108 (121709)- (44-45)	12/17/2009	
KL18024	H17-PF2 (121709)- (41-45)	12/17/2009	
KL18024	Trip Blank(120809)	12/18/2009	

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	
13. South Carolina Certification Number		X		X	

QA - quality assurance

The analytical report was complete with the following exceptions or notations.

Note: The laboratory reported values between the quantitative reporting limit and the method detection limit as estimated concentrations. The "J" qualifier was retained in this validation. Non-detect values are reported at the quantitative reporting limit.

All soils were reported on a dry weight basis.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: KL13004, KL16030, and KL18024
HAA-17

VOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation		DQM		DQM
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks		DQM		DQM
B. Equipment blanks	NA		NA	
C. Trip blanks		DQM		DQM
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS) A. LCS %R		DQM		DQM
B. LCS duplicate (LCSD) %R		DQM		DQM
C. LCS/LCSD RPD		DQM		DQM
6. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8260B.

1. SDG (KL13004) Sample location H17-AF101(121009)-(34-35) was analyzed 9 days beyond the 14 day recommended holding time due to instrument issues with the initial analysis as indicated by the case narrative. The re-analysis will be reported and all VOC results for this sample were qualified as estimated.

   SDG (KL13004) Sample location H17-PF3(121109)-(6-7) was analyzed 7 days beyond the14 day recommended holding time due to instrument issues with the initial analysis as indicated by the case narrative. The re-analysis will be reported and all VOC results for this sample were qualified as estimated.

   SDG (KL16030) Sample location H17-AF102(121509)-(44-45) was analyzed 2 days beyond the 14 day recommended holding time due internal standard failures in the initial analysis as indicated by the case narrative. The re-analysis will be reported and all VOC results for this sample were qualified as estimated.

   SDG (KL18024) Sample locations H17-AF103(121609)-(34-35), H17-AF104(121609)-(34-35) and H17-AF105(121609)-(34-35) were analyzed 1 day beyond the 14 day recommended holding time due internal standard failures in the initial analysis as indicated by the case narrative. The re-analysis will be reported and all VOC results for these samples were qualified as estimated.

2. Several samples required dilutions due to elevated concentrations of target analytes. There were elevated reporting limits for non-detect results.

3A. SDG (KL16030) The compound cyclohexane was detected in the method blank for batch 24457. The associated field samples were qualified as non-detect if the sample result was less than five times the blank result. See attached qualification summary for details of the qualifications.

3C. SDG (KL18024) The compounds acetone, carbon disulfide, and methylene chloride were detected in the trip blank. The associated field samples were qualified as non-detect if the sample results were less than ten times the blank result for acetone and methylene chloride and less than five times the blank result for carbon disulfide. See attached qualification summary for details of the qualifications.

4. SDG (KL13004) Two surrogate recoveries were less than the control limit in the 50x dilution of H17-AF61(120909)-(22-23) and one surrogate recovery was less than the control limit in the 50x dilution of H17-AF101(121009)-(24-25). The surrogate recoveries were acceptable in the 1x dilutions; therefore, qualification of the data is not warranted.

5. SDG (KL13004) The recoveries of compounds carbon disulfide and tetrachloroethene were above the control limit in the LCSD for batch 23960. All detections of these compounds in the associated field samples were qualified as estimated. See attached qualification summary for details of the qualifications.

SDGs (KL13004, KL16030, and KL18024) The RPD between the LCS/LCSD pair was above the control limit for vinyl chloride in batch 23963. The associated field samples were qualified as estimated for this compound. See attached qualification summary for details of the qualifications.

SDG (KL13004) The recoveries of compounds chloromethane and vinyl chloride were above the control limit in the LCSD for batch 24314. The associated field samples were non-detect for these compounds; therefore, qualification of the data is not warranted.

SDG (KL13004) The recoveries of 1,2-dibromo-3-chloropropane, 1,2-dibromomethane, 4-methyl-2-pentanone, and 1,1,2,2-tetrachloroethane were less than the control limit in the LCS for batches 24321 and 24685. The recoveries of bromoform, 1,2-dibromomethane, 4-methyl-2-pentanone, and 1,1,2,2-tetrachloroethane were less than the control limit in the LCSD. The associated field samples were qualified as estimated for these compounds. See attached qualification summary for details of the qualifications.

SDG (KL16030) The recovery of the compound 1,2-dibromo-3-chloropropane was above the control limit in the LCSD for batch 24386. The associated field samples were non-detect for this compound; therefore, qualification of the data is not warranted.

SDG (KL16030) The recovery of the compound dichlorodifluoromethane was above the control limit in the LCS and the LCSD for batch 24397. The associated field samples were non-detect for this compound; therefore, qualification of the data is not warranted.

SDG (KL16030) The RPD between the LCS/LCSD pair was above the control limit for acetone in batch 24457. The associated field samples were qualified as estimated for this compound. See attached qualification summary for details of the qualifications.

SDG (KL18024) The recovery of the compound 1,2,4-trichlorobenzene was above the control limit in the LCS for batch 24494. The associated field samples were non-detect for this compound; therefore, qualification of the data is not warranted.

SDG (KL18024) Several RPDs between the LCS/LCSD pair were above the control limit for batch 24560. The associated field samples were qualified as estimated for these compounds. See attached qualification summary for details of the qualifications.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

Analytical data were evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (July 2002), analytical method control criteria, the analytical laboratory Quality Assurance Control Limits, the Fort Stewart Military Reservation and Hunter Army Airfield Quality Assurance Project Plan (ARCADIS-2008), and professional judgment.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
    1. Method blanks,
    2. Trip blanks,
    3. Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manual review was performed for the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and
- Laboratory Duplicates

Data was generated by Shealy Environmental Services, Inc. – West Columbia, South Carolina. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in these SDGs are considered usable as reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the greater than guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected greater than the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

U Not detected at the quantitative reporting limit

DQM RUN BY:	Rachelle Borne	05/21/10
REVIEW PERFORMED BY:	Rachelle Borne	05/21/10
SIGNATURE:		05/26/10
PEER REVIEW:	Dennis Capria	05/26/10

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

The following samples were included in this SDG:

SDG	Sample ID	Sample Date	Parent Sample
LB12007	AF-13 (2-10-10)	2/10/2010	
LB12007	AF-14 (2-10-10)	2/10/2010	
LB12007	AF-23 (2-10-10)	2/10/2010	
LB12007	AF-25 (2-11-10)	2/11/2010	
LB12007	AF-26 (2-11-10)	2/11/2010	
LB12007	AF-35 (2-11-10)	2/11/2010	
LB12007	AF-41 (2-10-10)	2/10/2010	
LB12007	AF-54 (2-10-10)	2/10/2010	
LB12007	AF-55 (2-10-10)	2/10/2010	
LB12007	AF-56 (2-10-10)	2/10/2010	
LB12007	AF-57 (2-10-10)	2/10/2010	
LB12007	AF-58 (2-11-10)	2/11/2010	
LB12007	AF-68 (2-10-10)	2/10/2010	
LB12007	AF-69 (2-10-10)	2/10/2010	
LB12007	DUP-1 (021010)	2/10/2010	AF-55 (2-10-10)
LB12007	MW-12D (2-11-10)	2/11/2010	
LB12007	MW-12S (2-11-10)	2/11/2010	
LB12007	MW-2D (2-11-10)	2/11/2010	
LB12007	MW-2S(2-11-10)	2/11/2010	
LB12007	MW-3D	2/11/2010	
LB12007	MW-3S	2/11/2010	
LB12007	MW-7D (2-11-10)	2/11/2010	
LB12007	MW-7S (2-11-10)	2/11/2010	
LB12007	Trip Blank (021110)	2/11/2010	
LB18061	AT-MW-1 (2-17-10)	2/17/2010	
LB18061	AT-MW-2 (2-17-10)	2/17/2010	
LB18061	AT-MW-3 (2-17-10)	2/17/2010	
LB18061	AT-MW-4 (2-17-10)	2/17/2010	
LB18061	AT-MW-5 (2-17-10)	2/17/2010	
LB18061	DUP-2 (021710)	2/17/2010	AT-MW-3 (2-17-10)
LB18061	MW-13D (2-16-10)	2/16/2010	
LB18061	MW-13S (2-16-10)	2/16/2010	
LB18061	MW-15S (2-19-10)	2/19/2010	
LB18061	MW-16S (2-17-10)	2/17/2010	
LB18061	MW-5D (2-16-10)	2/16/2010	
LB18061	MW-5S (2-16-10)	2/16/2010	
LB18061	MW-8D (2-16-10)	2/16/2010	
LB18061	MW-8S (2-16-10)	2/16/2010	
LB18061	MW-9D (2-16-10)	2/16/2010	
LB18061	MW-9S (2-16-10)	2/16/2010	
LB18061	TRIP BLANK2 (021810)	2/18/2010	

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	
13. South Carolina Certification Number		X		X	

QA - quality assurance

The analytical report was complete with the following exceptions or notations.

Note: The laboratory reported values between the quantitative reporting limit and the method detection limit as estimated concentrations. The "J" qualifier was retained in this validation. Non-detect values are reported at the quantitative reporting limit.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

VOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
C. Trip blanks		DQM		DQM
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS) A. LCS %R		DQM		DQM
B. LCS duplicate (LCSD) %R		DQM		DQM
C. LCS/LCSD RPD		DQM		DQM
6. Matrix spike (MS)				
A. MS %R		DQM		DQM
B. MS duplicate (MSD) %R		DQM		DQM
C. MS/MSD precision (RPD)	DQM		DQM	
7. Field Duplicate precision (RPD)	DQM		DQM	

M – Manual Review %R - percent recovery RPD - relative percent difference
DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8260B.

2. Several samples required dilutions due to elevated concentrations of target analytes. There were elevated reporting limits for non-detect results.

3C. SDG (LB12007 and LB18061) The compound acetone was detected in the trip blank. The associated field samples were qualified as non-detect for acetone if the sample results were less than ten times the blank result.

SDG (LB18061) The compound styrene was detected in the trip blank. The associated field samples were non-detect for this compound; therefore, qualification of the data is not warranted.

5A. SDG (LB18061) The recovery of dichlorodifluoromethane was below the control limit in the LCS for batch 28053. The associated field samples analyzed in this analytical batch were qualified as estimated for this compound.

5B. SDG (LB12007) The recoveries of dichlorodifluoromethane and trichlorofluoromethane were below the control limit in the LCSD for batch 27687. The associated field samples analyzed in this analytical batch were qualified as estimated for these compounds.

SDG (LB12007) The recovery of dichlorodifluoromethane was below the control limit in the LCSD for batch 27741. The associated field samples analyzed in this analytical batch were qualified as estimated for this compound.

SDG (LB18061) The recovery of the compound bromoform was below the control limit in the LCSD for batch 28053. The associated field samples analyzed in this analytical batch were qualified as estimated for this compound.

5C. SDG (LB12007) The RPD between the LCS/LCSD pair was above the control limit for carbon tetrachloride, cyclohexane, dichlorodifluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane. The associated field samples analyzed in this analytical batch were qualified as estimated for these compounds.

SDG (LB18061) The RPD between the LCS/LCSD pair was above the control limit for acetone, bromoform and dichlorodifluoromethane. The associated field samples analyzed in this analytical batch were qualified as estimated for these compounds.

6. SDG (LB12007) Sample location AF-57 (2-10-10) was used as the MS/MSD. The recoveries of several compounds were below the control limit in the MS and the MSD. The parent sample was qualified as estimated for these compounds. See the attached qualification summary for details of the qualifications.

SDG (LB12007) Sample location MW-2S(2-11-10) was used as the MS/MSD. The recoveries and RPDs were acceptable.

7. SDG (LB12007) Sample location DUP-1 was collected as a field duplicate of AF-55(2-10-10). The RPDs were acceptable at less than 40%.

SDG (LB18061) Sample location DUP-2(021710) was collected as a field duplicate of AT-MW-3(2-17-10). The RPDs were acceptable at less than 40%.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDG: LB12007 and LB18061
HAA-17

METALS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
4. Laboratory control sample (LCS) A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	DQM		DQM	
C. LCS/LCSD RPD	DQM		DQM	
5. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
6. Field Duplicate precision (RPD)	DQM		DQM	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Methods 6010C.

6. SDG (LB18061) Sample location DUP-2(021710) was collected as a field duplicate of AT-MW-3(2-17-10). The RPDs were acceptable at less than 40%.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: LE28018
HAA-17

Analytical data were evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), analytical method control criteria, the analytical laboratory Quality Assurance Control Limits, the Fort Stewart Military Reservation and Hunter Army Airfield Quality Assurance Project Plan (ARCADIS-2008), and professional judgment.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
    1. Method blanks,
    2. Trip blanks,
    3. Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manual review was performed for the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and
- Laboratory Duplicates

Data was generated by Shealy Environmental Services, Inc. – West Columbia, South Carolina and Test America – Savannah Laboratories. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in these SDGs are considered usable as reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: LE28018
HAA-17

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the greater than guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected greater than the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

U Not detected at the quantitative reporting limit

DQM RUN BY:	Rachelle Borne	06/16/10
REVIEW PERFORMED BY:	Rachelle Borne	06/16/10
SIGNATURE:		06/17/10
PEER REVIEW:	Dennis Capria	06/20/10

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: LE28018
HAA-17

The following samples were included in this SDG:

SDG	Sample ID	Sample Date	Parent Sample
LE28018	H17-DUP-1 (052510)	05/25/10	H17-MW-19S (052510)
LE28018	H17-MW-17D (052510)	05/25/10	
LE28018	H17-MW-17S (052510)	05/25/10	
LE28018	H17-MW-18D (052510)	05/25/10	
LE28018	H17-MW-19S (052510)	05/25/10	
LE28018	H17-MW-20D (052510)	05/25/10	
LE28018	H17-MW-21D (052510)	05/25/10	
LE28018	H17-MW-21S (052510)	05/25/10	
LE28018	H17-MW-22D (052510)	05/25/10	
LE28018	H17-MW-22S (052510)	05/25/10	
LE28018	TB-01 (052510)	05/25/10	

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: LE28018
HAA-17

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	
13. South Carolina Certification Number		X		X	

QA - quality assurance

The analytical report was complete with the following exceptions or notations.

Note: The laboratory reported values between the quantitative reporting limit and the method detection limit as estimated concentrations. The "J" qualifier was retained in this validation. Non-detect values are reported at the quantitative reporting limit.

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: LE28018
HAA-17

VOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
C. Trip blanks	DQM		DQM	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS) A. LCS %R		DQM	DQM	
B. LCS duplicate (LCSD) %R		DQM	DQM	
C. LCS/LCSD RPD	DQM		DQM	
6. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
7. Field Duplicate precision (RPD)	DQM		DQM	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8260B.

2. No dilutions were required.

5. The recovery of the compound dichlorodifluoromethane was above the control limit in the LCS and the LCSD for batch 34942. The associated field samples were non-detect for this compound; therefore, qualification of the data is not warranted.

7. Sample location H17-DUP-1(052510) was collected as a field duplicate of H-17-MW-19S(052510). The RPDs were acceptable at less than 40%.

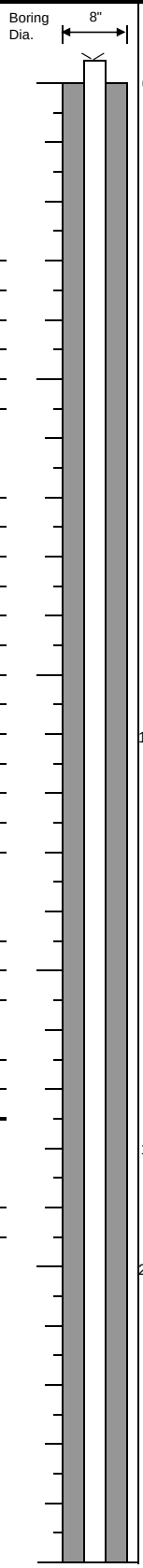
Project: HAA-17 Page 1 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-17D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/6/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log



Construction

Intervals (ft BGS)

Riser: 0-32
Screen: 32-42
Surf. Seal: 0-28
Seal: 28-30
Filter Pack: 30-42
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/6/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
0	Grass Surface	
	10 YR 6/2 light grayish brown silty well sorted fine sand and angular gravel, concrete fragments/fill	0.0
1		
2	7.5 YR 6/6 reddish yellow silty well sorted fine sand	0.0
3		
4		0.0
5	10 YR 7/2 light gray silty well sorted fine sand, wet	
6		0.0
7		
8		0.0
9		
10		0.0
11		
12		0.0
13		
14		0.0
15		
16		0.0
17		
18	10 YR 7/1 light gray and 10 YR 6/6 brownish yellow medium firm high plasticity clay	
		0.0
19		
20	10 YR 6/6 brownish yellow sandy moderate plasticity clay	0.0
21		
22		0.0
23	10 YR 8/1 white silty well sorted fine sand	
24		0.0
25		

Project: HAA-17 Page 2 of 2

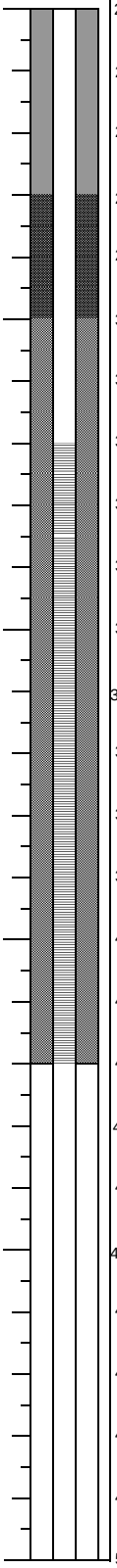
Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-17D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/6/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"



Construction

Intervals (ft BGS)

Riser: 0-32
Screen: 32-42
Surf. Seal: 0-28
Seal: 28-30
Filter Pack: 30-42
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X2' Concrete
Lock: Locking Cap
Date/Time: 5/6/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
25	Grades to 10 YR 7/1 light gray silty well sorted fine sand	0.0
26		
27		0.0
28		
29		0.0
30		
31		
32		0.0
33	10 YR 6/1 gray silty to clayey well sorted fine sand	
34		0.0
35		
36		0.0
37		
38		0.0
39		
40		0.0
41		
42		0.0
43	10 YR 5/1 gray interbedded soft sandy high plasticity clay and silty well sorted fine sand, clay layers range from ~1" to 4" thick, lower 2" of 40-45 core is 10 YR 5/1 gray silty poorly sorted medium to very coarse subanglar to angular sand	
44		0.0
45		
46	END OF BORING @ 45 FEET	
47		
48		
49		
50		

Project: HAA-17

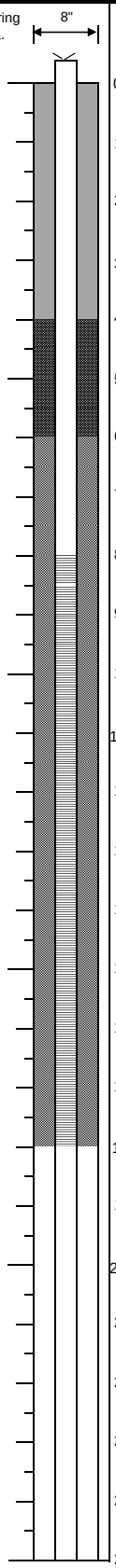
Page 1 of 1

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI

Site Location Savannah, GA

Well ID	H17-MW-17S	Contractor/Driller	ARM	Total Depth Drilled	18
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	4/23/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum



Well Construction Log

Construction

Intervals (ft BGS)

Riser: 0-8

Screen: 8-18

Surf. Seal: 0-4

Seal: 4-6

Filter Pack: 6-18

Backfill: None

Materials

Riser: 2" Sch. 40 PVC

Screen: 10-slot PVC

Surf. Seal: Cement Grout

Seal: Bentonite

Filter Pack: #2 Sand

Backfill: None

Surface Completion

Protection: Flush Mount

Manhole

Pad: 2' X 2' Concrete

Lock: Locking Cap

Date/Time: 4/23/2010

ARCADIS G&M Personel

Field Work: JDF/CCF

Log Draft: JDF/CCF

Symbols

Grout:

Bentonite:

Sand:

Gravel:

Backfill: X

Depth (ft)

Borehole Log

Description

See H17-MW-17D for Lithology

END OF BORING @ 18 FEET

PID (ppm)

Project: HAA-17 Page 1 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-18D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/19/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/5/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-30
Screen: 30-40
Surf. Seal: 0-25
Seal: 25-27
Filter Pack: 27-40
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/5/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
0	Grass Surface	
	10 YR 7/3 very pale brown silty well sorted fine sand	0.0
1		
2		0.0
3	10 YR 2/1 black silty well sorted fine sande	
4	10 YR 3/1 very dark gray silty well sorted fine sand	
	10 YR 7/4 very pale brown silty well sorted fine sand	0.0
5	10 YR 5/2 grayish brown silty well sorted fine sand	
	10 YR 3/2 very dark grayish brown silty well sorted fine sand	
6	7.5 YR 3/4 dark brown silty well sorted fine sand	
		0.0
7		
8		
		0.0
9		
	10 YR 6/3 pale brown silty well sorted fine sand, grades to 10 YR 7/1 light gray silty well sorted fine sand	
10		
		0.0
11		
12		
		0.0
13		
14		
		0.0
15		
	10 YR 7/1 light gray silty well sorted fine sand ~1 inch thick lens of 10 YR 7/2 micaceous (some muscovite)	
16	silty well sorted fine sand @ 17'	
		0.0
17		
18		
		0.0
19	5 GY 8/1 light greenish gray silty well sorted fine sand	
	10 YR 5/1 gray silty well sorted fine sand	
20		
		0.0
21		
22		
		0.0
23		
24		
	~1" thick very soft sandy moderate plasticity clayey lens @ 24' (10 YR 5/1 gray)	0.0
25		

Project: HAA-17 Page 2 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-18D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/19/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/5/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-30
Screen: 30-40
Surf. Seal: 0-25
Seal: 25-27
Filter Pack: 27-40
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/5/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
25	10 YR 5/1 gray silty well sorted fine sand	
26		0.0
27		
28		0.0
29		
30		0.0
31		
32		0.0
33		
34		0.0
35		
36		0.0
37		
38		0.0
39		
40		0.0
41		
42	10 YR 5/1 gray interbedded soft high plasticity sandy clay and silty well sorted fine sand	
43		
44	10 YR 5/1 gray silty poorly sorted medium to very coarse angular sand	
45	END OF BORING @45 FEET	
46		
47		
48		
49		
50		

Project: HAA-17 Page 1 of 1

Borehole and Well Construction Log

Project No. GP08HAGS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-19S	Contractor/Driller	ARM	Total Depth Drilled	20
Date Begin	4/19/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	4/20/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-5
Screen: 5-15
Surf. Seal: 0-2
Seal: 2-4
Filter Pack: 4-15
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 4/20/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
0	Grass Surface	
	10 YR 5/2 grayish brown silty well sorted fine sand	0.0
1		
	10 YR 7/2 very pale brown silty well sorted fine sand	
2		
	10 YR 3/2 very dark grayish brown silty well sorted fine sand	0.0
3		
4		
	10 YR 4/2 dark grayish brown silty well sorted fine sand	0.0
5		
6		
	10 YR 3/2 very dark grayish brown medium fine high plasticity clay	0.0
7		
	10 YR 6/2 light grayish brown silty well sorted fine sand	
8		
	10 YR 7/1 light gray silty well sorted fine sand trace muscovite	0.0
9		
	10 YR 6/1 gray silty well sorted medium sand trace musconite, trace wood fragments	
10		
		0.0
11		
12		
		0.0
13		
14		
		0.0
15		
16		
		0.0
17		
18		
		0.0
19	~1" thick soft sandy clay, high plasticity @ 19'	
		0.0
20	END OF BORING @ 20 FEET	
21		
22		
23		
24		
25		

Project: HAA-17 Page 1 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-20D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/11/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-18
Screen: 18-28
Surf. Seal: 0-14
Seal: 14-16
Filter Pack: 16-28
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Stick-up Cover
Pad: 2' X 2' Concrete
Lock: Locking Stickup
Date/Time: 5/11/10

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
0	Grass Surface	
	10 YR 4/3 brown silty well sorted fine sand	0.0
1		
2		
	10 YR 4/3 brown sandy medium firm high plasticity clay	0.0
3		
4		
	10 YR 7/2 light gray clayey well sorted fine sand, trace muscovite	0.0
5		
6		
		0.0
7		
8		
		0.0
9		
	10 YR 6/1 gray sandy moderate plasticity clay (soft), wood fragments, trace muscovite, grades to 10 YR 6/1	
10	gray clayey poorly sorted fine to medium sand, subangular, some muscovite	
		0.0
11		
12		
		0.0
13		
14		
		0.0
15	10 YR 6/1 gray clayey poorly sorted fine to medium sand, some muscovite	
16		
		0.0
17		
18		
		0.0
19		
20		
		0.0
21		
22		
		0.0
23		
24		
		0.0
25	10 YR 5/1 gray medium firm high plasticity clay, some highly weathered white shell material	

Project: HAA-17 Page 2 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-20D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/11/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-18
Screen: 18-28
Surf. Seal: 0-14
Seal: 14-16
Filter Pack: 16-28
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Stick-up Cover
Pad: 2' X 2' Concrete
Lock: Locking Stickup
Date/Time: 5/11/10

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

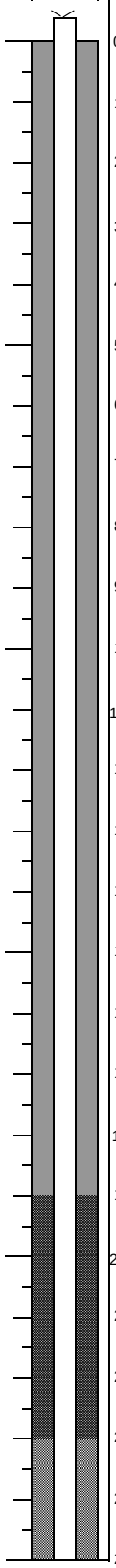
Depth (ft)	Borehole Log Description	PID (ppm)
25		
26		0.0
27		
28	10 YR 5/1 gray interbedded soft high plasticity clay and silty poorly sorted medium to very coarse	0.0
29	subangular sand	
30		0.0
31	10 YR 5/1 gray silty poorly sorted medium to very coarse subangular sand	
32		0.0
33		
34		0.0
35		
36		0.0
37		
38		0.0
39		
40		0.0
41		
42		0.0
43		
44		0.0
45	END OF BORING @ 45 FEET	
46		
47		
48		
49		
50		

Borehole and Well Construction Log

Project: HAA-17 | Page 1 of 2

Project No. GP08HAFS.H17B.DG0FI | Site Location: Savannah, GA

Well ID	H17-MW-21D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/11/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum



Construction

Intervals (ft BGS)

Riser: 0-25
Screen: 25-35
Surf. Seal: 0-19
Seal: 19-23
Filter Pack: 23-35
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/11/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
0	Grass Surface	
	10 YR 7/2 light grass silty well sorted fine sand	0.0
1	7.5 YR 6/6 reddish yellow silty well sorted fine sand	
	10 YR 5/2 grayish brown silty well sorted fine sand	
2		
		0.0
3		
4		
	10 YR 7/2 light gray silty well sorted fine sand with reddish yellow mottling	0.0
5		
	10 YR 7/2 light gray to 10 YR 6/8 brownish yellow silty well sorted fine sand	
6		
		0.0
7		
8		
		0.0
9		
	10 YR 6/1 gray clayey well sorted fine sand, slight plasticity	
10		
		0.0
11		
12	Same as above with shell fragments from 11-13'	
		0.0
13		
14		
		0.0
15		
	10 YR 4/3 dark brown clayey well sorted fine sand	
16	10 YR 2/3 very dark soft high plasticity clay, wood fragments @ 17.5'	
		0.0
17		
18	10 YR 6/1 gray clayey well sorted fine sand	
		0.0
19		
20		
	10 YR 6/1 gray silty well sorted fine sand	0.0
21		
22		
		0.0
23		
24		
		0.0
25	10 YR 6/1 gray clayey poorly sorted fine to medium sub angular sand	

Project: HAA-17 Page 2 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-21D	Contractor/Driller	ARM	Total Depth Drilled	45
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/11/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-25
Screen: 25-35
Surf. Seal: 0-19
Seal: 19-23
Filter Pack: 23-35
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/11/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
25		
26		0.0
27		
28		0.0
29	10 YR 6/1 gray soft moderate plasticity sandy clay with shell fragments	
30		0.0
31	10 YR 6/1 gray silty poorly sorted fine to coarse subangular sand	
32		0.0
33		
34		0.0
35	10 YR 6/1 gray soft moderate plasticity sandy clay with shell fragments	
36	10 YR 6/1 gray silty to clayey fine well sorted sandy ~2" thick lens of 10 YR 6/1 gray silty, poorly sorted subangular sand @ 38.5', trace muscovite	0.0
37		
38		0.0
39		
40		0.0
41		
42		0.0
43		
44		0.0
45	END OF BORING @ 45 FEET	
46		
47		
48		
49		
50		

Project: HAA-17 Page 1 of 1

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-21S	Contractor/Driller	ARM	Total Depth Drilled	17
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	4/22/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-7
Screen: 7-17
Surf. Seal: 0-4
Seal: 4-6
Filter Pack: 6-17
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 4/22/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
0	See H17-MW-21D for Lithology	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	END OF BORING @17 FEET	
18		
19		
20		
21		
22		
23		
24		
25		

Project: HAA-17 Page 1 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-22D	Contractor/Driller	ARM	Total Depth Drilled	40
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/5/2010	Method	Mud Rotary with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-25
Screen: 25-35
Surf. Seal: 0-20
Seal: 20-23
Filter Pack: 23-35
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' X 2' Concrete
Lock: Locking Cap
Date/Time: 5/5/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
0	Grass Surface	
	10 YR 5/2 grayish brown silty well sorted fine sand	0.0
1		
2		
3		
	5 GY b/1 light greenish gray and 10 YR 6/6 brownish yellow sandy medium firm moderate plasticty	0.0
4	clay	
5		
6		
	10 YR 6/3 pale brown silty well sorted fine sand	0.0
7		
8	10 YR 7/1 light gray silty well sorted fine sand, trace muscovite	
9		0.0
10		
11		
12		0.0
	10 YR 6/1 gray sandy soft to medium firm high plasticity clay, shell material	
13		
14		0.0
	10 YR 3/3 dark brown clayey well sorted fine sand, slightly cohesive	
15		
16		
17		
	10 YR 4/3 brown medium firm high plasticity clay	0.0
18	10 YR 6/1 gray clayey well sorted medium subangular sand	
19		
	10 YR 6/1 gray interbedded soft sandy high plasticity clay and clayey well sorted fine sand	
20		0.0
	10 YR 5/1 gray silty poorly sorted medium to coarse sub rounded sand	
21		
22		
	1- YR 5/1 gray medium firm high plasticity clay with shell material	0.0
23		
24	10 YR 5/1 gray soft clay and poorly sorted medium to coarse subangular sand, high plasticity,	
	trace muscovite	
25		0.0

Project: HAA-17 Page 2 of 2

Borehole and Well Construction Log

Project No. GP08HAFS.H17B.DG0FI Site Location Savannah, GA

Well ID	H17-MW-22D	Contractor/Driller	ARM	Total Depth Drilled	40
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	5/5/2010	Method	Mud Rotary with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"

Construction

Intervals (ft BGS)

Riser: 0-25
Screen: 25-35
Surf. Seal: 0-20
Seal: 20-23
Filter Pack: 23-35
Backfill: None

Materials

Riser: 2" Sch. 40 PVC
Screen: 10-slot PVC
Surf. Seal: Cement/Grout
Seal: Bentonite
Filter Pack: #2 Sand
Backfill: None

Surface Completion

Protection: Flush Mount
Manhole
Pad: 2' x2' Concrete
Lock: Locking Cap
Date/Time: 5/5/2010

ARCADIS G&M Personel

Field Work: JDF/CCF
Log Draft: JDF/CCF

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Depth (ft)	Borehole Log Description	PID (ppm)
25	10 YR 5/1 gray silty poorly sorted medium to very coarse subangular sand	
26		0.0
27	10 YR 5/1 gray soft clay and well sorted fine sand, cohesive, slight plasticity	
28		0.0
29		
30		
31	10 YR 5/1 gray soft to medium fine high plasticity clay, sandy, ~3" thick lens of silty poorly sorted medium	0.0
32	to coarse subangular sand and wood fragments @ 34.5'	
33		
34		0.0
35		
36		0.0
37		
38		
39	10 GY 7/1 light greenish gray very firm slight plasticity clay	
		0.0
40	END OF BORING @ 40 FEET	
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Project: HAA-17

Page 1 of 1

Borehole and Well Construction Log

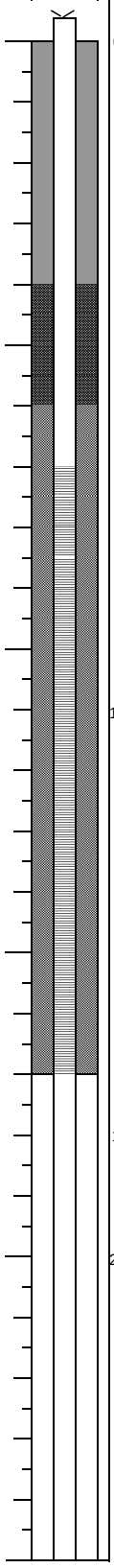
Project No. GP08HAFS.H17B.DG0FI

Site Location: Savannah, GA

Well ID	H17-MW-22S	Contractor/Driller	ARM	Total Depth Drilled	17
Date Begin	4/20/2010	Rig Type	Geoprobe/CME 45	Sample Method/Size	DPT
Date End	4/21/2010	Method	Hollow Stem Auger with DPT Lithology	Cutting Disposal	Drum

Well Construction Log

Boring Dia. 8"



Construction

Intervals (ft BGS)

Riser: 0-7

Screen: 7-17

Surf. Seal: 0-4

Seal: 4-6

Filter Pack: 6-17

Backfill: None

Materials

Riser: 2" Sch. 40 PVC

Screen: 10-slot PVC

Surf. Seal: Cement/Grout

Seal: Bentonite

Filter Pack: #2 Sand

Backfill: None

Surface Completion

Protection: Flush Mount

Manhole

Pad: 2' X 2' Concrete

Lock: Locking Cap

Date/Time: 4/21/2010

ARCADIS G&M Personel

Field Work: JDF/CCF

Log Draft: JDF/CCF

Symbols

Grout:

Bentonite:

Sand:

Gravel:

Backfill: X

Borehole Log

Depth (ft)	Description	PID (ppm)
0	See H17-MW-22D for Lithology	
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	END OF BORING @17 FEET	
18		
19		
20		
21		
22		
23		
24		
25		

Project _____ Page___2_ of_____

Borehole and Well Construction Log

Project No. _____ Site Location _____

Well ID _____ Contractor/Driller _____ Total Depth Drilled _____
Date Begin _____ Rig Type _____ Sample Method/Size _____
Date End _____ Method _____ Cutting Disposal _____

Well Construction Log

Boring Dia. _____"

Time
Begin: _____
End: _____

Construction

Intervals (ft BGS)

Riser: _____
Screen: _____
Surf. Seal: _____
Seal: _____
Filter Pack: _____
Backfill: _____

Materials

Riser: _____

Screen: _____

Surf. Seal: _____

Seal: _____

Filter Pack: 20-30 sand

Backfill: N/A

Surface Completion

Protection: _____

Pad: _____

Lock: _____
Date/Time: _____

ARCADIS G&M Personel

Field Work: _____
Log Draft: _____

Symbols

Grout:
Bentonite:
Sand:
Gravel:
Backfill: X

Contact: _____
Implied or Gradational Contact: ----------

Depth (ft)	Spl Run	Class	Borehole Log Description	Ft. Rec.	Blow Count	PID (ppm)
			Time Begin: _____ End: _____			
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						

Project _____ Page__3__ of_____

Borehole and Well Construction Log

Project No. _____ Site Location _____

Well ID _____ Contractor/Driller _____ Total Depth Drilled _____

Date Begin _____ Rig Type _____ Sample Method/Size _____

Date End _____ Method _____ Cutting Disposal _____

Well Construction Log

Boring Dia. _____"

Time

Begin: _____

End: _____

Construction

Intervals (ft BGS)

Riser: _____

Screen: _____

Surf. Seal: _____

Seal: _____

Filter Pack: _____

Backfill: _____

Materials

Riser: _____

Screen: _____

Surf. Seal: _____

Seal: _____

Filter Pack: _____

Backfill: _____

Surface Completion

Protection: _____

Pad: _____

Lock: _____

Date/Time: _____

ARCADIS G&M Personel

Field Work: _____

Log Draft: _____

Symbols

Grout:

Bentonite:

Sand:

Gravel:

Backfill: X

Contact:

Implied or Gradational Contact:

Depth (ft)	Spl Run	Class	Borehole Log Description	Ft. Rec.	Blow Count	PID (ppm)
			Time Begin: _____ End: _____			
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF01 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/7/2009 Drilling Completed 12/7/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		6.9	
27	28			
28	29		5.0	
29	30			
30	31		3.1	10 YR 5/1 gray clayey poorly sorted subangular coarse sand
31	32			
32	33		2.2	10 YR 5/1 gray silty fine sand and interbedded soft high plasticity clay
33	34			
34	35		8.9	
35	36			10 YR 6/1 gray silty coarse to very coarse poorly sorted subangular sand
36	37		0.0	
37	38			
38	39		0.3	
39	40			
40	41		0.0	
41	42			
42	43		0.1	
43	44			
44	45		0.7	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF01 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/7/2009 Drilling Completed 12/7/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/2 grayish brown silty fine sand and subrounded gravel
1	2			10 YR 7/2 light gray well sorted fine sand
2	3		0.0	10 YR 5/2 grayish brown well sorted silty fine sand lens of
3	4			10 YR 8/3 well sorted subangular coarse sand ~4" thick @ 4'
4	5		0.0	
5	6			10 YR 4/2 dark grayish brown silty well sorted fine sand
6	7		0.0	10 YR 5/3 brown well sorted silty fine sand
7	8			10 YR 4/4 dark yellowish brown well sorted clayey fine sand, wet
8	9		0.0	10 YR 5/2 grayish brown well sorted silty fine sand
9	10			
10	11		0.0	
11	12			
12	13		0.0	10 YR 7/1 light gray well sorted clayey fine sand
13	14			
14	15		0.0	
15	16			
16	17		0.0	
17	18			
18	19		0.0	10 YR 5/2 grayish brown clayey poorly sorted coarse sand, wood fragments,
19	20			some muscovite fragments
20	21		0.0	10 YR 6/1 clayey poorly sorted fine to medium sand, slight plasticity/cohesiveness
21	22			
22	23		0.0	
23	24			
24	25		0.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF15 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.0	
27	28			
28	29		0.0	10 YR 6/1 gray interbedded silty well sorted fine sand and soft high plasticity
29	30			clay
30	31		0.0	10 YR 6/1 gray interbedded silty poorly sorted fine to coarse subangular sand
31	32			and soft high plasticity clay
32	33		0.0	
33	34			
34	35		0.0	
35	36			10 YR 6/1 gray silty poorly sorted subangular coarse to very coarse sand
36	37		0.0	
37	38			
38	39		0.0	
39	40			
40	41		0.0	
41	42			
42	43		0.0	
43	44			
44	45		0.0	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF15 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt ~0-6"
0	1			10 YR 6/3 pale brown well sorted silty fine sand
1	2			10 YR 8/2 very pale brown poorly sorted subangular fine to coarse sand,
2	3		0.0	some reddish yellow mottling from 3-4'
3	4			
4	5		0.0	7.5 YR 7/6 reddish yellow poorly sorted subangular fine-coarse sand,
5	6			becomes 10 YR 7/2 light gray from 5.5'-6'
6	7		0.0	10 YR 4/2 dark grayish brown silty well sorted fine sand, wet
7	8			
8	9		0.0	10 YR 7/2 light gray silty well sorted fine sand, becomes 10 YR 5/3 brown
9	10			from 8.5'-9' becomes 10 YR 6/2 light brownish gray
10	11		0.0	10 YR 6/3 pale brown poorly sorted subangular fine to coarse sand
11	12			10 YR 7/2 light gray to 10 YR 5/2 grayish brown silty very fine sand
12	13		0.0	
13	14			10 Y 8/1 light greenish gray well sorted silty fine sand
14	15		0.0	N5/ gray silty well sorted fine sand
15	16			N5/ gray silty well sorted subangular medium sand, trace muscovite,
16	17		0.0	wood fragments
17	18			
18	19		0.0	
19	20			
20	21		0.0	10 YR 6/1 gray silty well sorted fine to medium sand, trace muscovite
21	22			
22	23		0.0	
23	24			
24	25		0.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF53 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.0	
27	28			10 YR 5/1 gray soft high plasticity clay (27-27.5'), 10 YR 5/1 gray soft high
28	29		0.0	plasticity clay and coarse sand (27.5-28')
29	30			28'- 10 YR 7/1 light gray well sorted fine sand
30	31		0.0	10 YR 5/1 gray clayey poorly sorted subangular coarse sand
31	32			
32	33		0.0	
33	34			
34	35		0.0	10 YR 6/1 gray silty well sorted fine sand
35	36			10 YR 5/1 gray silty poorly sorted subangular coarse sand, 2" thick 10 YR 5/1
36	37			gray soft high plasticity clay lenx @ 35.5', similar 1" thick clay lens @ 37'
37	38			
38	39			
39	40			
40	41			END OF BORING
41	42			
42	43			
43	44			
44	45			
45	46			
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF53 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt ~0-6"
0	1			10 YR 5/1 poorly sorted sand and subangular gravel
1	2			10 YR 6/3 pale brown well sorted silty fine sand
2	3		0.0	
3	4			
4	5		0.0	10 YR 4/2 dark grayish brown well sorted silty fine sand
5	6			10 YR 5/2 grayish brown well sorted silty fine sand
6	7		0.0	10 YR 4/2 dark grayish brown well sorted silty fine sand, wet
7	8			
8	9		0.0	10 YR 7/1 light gray well sorted silty fine sand, wood fragments
9	10			
10	11		0.0	
11	12			
12	13		0.0	
13	14			
14	15		0.0	
15	16			
16	17		0.0	
17	18			10 YR 5/1 gray poorly sorted silty fine to coarse sand, trace muscovite
18	19		0.0	
19	20			
20	21		0.0	10 YR 5/2 grayish brown silty well sorted fine sane, trace muscovite
21	22			
22	23		0.0	
23	24			
24	25		0.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF61 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/9/2009 Drilling Completed 12/9/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 50 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 5/1 gray silty poorly sorted fine to medium sand
26	27		0.8	
27	28			
28	29		13.7	
29	30			
30	31		5.5	10 YR 5/1 gray interbedded porrly sorted fine to coarse subangular sand
31	32			clayey, 2" thick lens of 10 YR 5/1 gray soft high plasticity clay @ 34'
32	33		2.6	
33	34			
34	35		10.1	
35	36			10 YR 5/1 gray interbedded poorly sorted fine to coarse clayey sand and
36	37		15.2	10 YR 5/1 gray soft high plasticity clay
37	38			
38	39		2.2	10 YR 6/1 gray well sorted subangular coarse sand
39	40			
40	41		1.1	10 YR 6/1 gray poorly sorted coarse subangular sand
41	42			
42	43		0.6	
43	44			
44	45		0.5	
45	46			
46	47		0.7	
47	48			
48	49		0.7	10 YR 6/1 gray interbedded poorly sorted clayey coarse subangular sand
49	50			and 10 YR 6/1 gray soft high plasticity clay, some roundest fine gravel from 49.5'-50'

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF61 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/9/2009 Drilling Completed 12/9/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 50 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt ~0-6"
0	1			20 YR 3/1 very dark gray silty fine sand
1	2			
2	3		0.0	
3	4			10 YR 6/1 light gray silty well sorted fine sand, wet
4	5		0.3	
5	6			10 YR 6/2 light brownish gray silty well sorted fine sand, with wood fragments
6	7		0.5	
7	8			10 YR 8/1 white well sorted fine sand with wood fragments
8	9		0.7	
9	10			
10	11		0.5	10 YR 7/6 yellow silty well sorted fine sand
11	12			
12	13		0.3	
13	14			10 YR 7/1 gray silty well sorted fine sand
14	15		1.1	10 YR 6/1 gray silty well sorted fine sand
15	16			10 YR 4/1 dark gray silty poorly sorted coarse sand, trace muscovite
16	17		0.0	
17	18			
18	19		0.0	
19	20			
20	21		0.1	10 YR 4/1 dark gray silty well sorted fine sand, trace clay, lens of 10 YR 4/1
21	22			soft high plasticity clay ~4" thick @ 23'
22	23		1.5	
23	24			
24	25		4.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF62 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 40 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.0	
27	28			10 YR 6/1 gray soft high plasticity clay (27.5-28 feet)
28	29		0.0	5 GY 4/1 dark greenish gray silty poorly sorted angular gravel and coarse sand
29	30			up to 1" da.
30	31		0.0	10 YR 6/1 gray silty coarse subangular sand
31	32			
32	33		0.0	
33	34			10 YR 6/1 gray interbedded silty fine sand and soft high plasticity clay
34	35		0.0	
35	36			10 YR 6/1 gray silty subangular coarse sand 1" thick soft high plasticity
36	37		0.0	clay lens @ 38'
37	38			
38	39		0.0	
39	40			
40	41		0.0	(@40') END OF BORING
41	42			
42	43			
43	44			
44	45			
45	46			
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF62 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/8/2009 Drilling Completed 12/8/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 40 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt upper 6"
0	1			10 YR 6/1 gray silty poorly sorted sand and fine gravel
1	2			10 YR 6/3 pale brown poorly sorted silty fine to coarse sand
2	3		0.0	10 YR 5/2 grayish brown poorly sorted silty fine to coarse sand, clayey lens
3	4			~2" thick @ 3'
4	5		0.0	
5	6			10 YR 3/3 clayey well sorted very fine sand
6	7		0.0	10 YR 6/2 light brownish gray silty well sorted fine sand, 10 YR 7/1 light gray
7	8			silty fine sand lens ~6" thick @ 8.5'
8	9		0.0	
9	10			
10	11		0.0	
11	12			
12	13		0.0	
13	14			
14	15		0.0	10 YR 7/1 light gray silty well sorted fine sand
15	16			10 Y 8/1 light greenish gray clay well sorted fine sand, wood fragments
16	17		0.0	
17	18			10 YR 5/2 grayish brown clayey well sorted fine sand, some muscovite
18	19		0.0	
19	20			
20	21		0.0	
21	22			
22	23		0.0	
23	24			
24	25		0.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF101 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/10/2009 Drilling Completed 12/10/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 8/1 light greenish gray clayey well sorted fine sand
26	27		10.1	10 YR 6/1 gray silty-clayey well sorted fine sand, trace muscovite
27	28			
28	29		25.0	
29	30			10 YR 5/1 gray interbedded poorly sorted fine to coarse subangular sand
30	31		15.1	and 10 YR 5/1 gray soft high plasticity clay
31	32			
32	33		6.9	
33	34			
34	35		9.4	
35	36			10 YR 5/1 gray silty poorly sorted medium to very coarse subangular sand,
36	37		1.1	some well rounded fine gravel
37	38			
38	39		1.5	
39	40			
40	41		0.4	
41	42			
42	43		0.8	
43	44			
44	45		3.8	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF101 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/10/2009 Drilling Completed 12/10/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/3 brown silty well sorted fine sand
1	2			10 YR 7/3 very pale brown silty poorly sorted fine to coarse subrounded sand
2	3		0.0	
3	4			10 YR 7/2 silty light gray poorly sorted subangular fine to coarse sand
4	5		0.0	
5	6			10 YR 3/2 very dark grayish brown clayey very fine sand, moderate-high
6	7		0.0	plasticity, sof
7	8			10 YR 5/2 grayish brown clayey well sorted fine sand
8	9		0.0	
9	10			10 YR 7/2 light gray silty well sorted fine sand
10	11		0.0	10 YR 7/1 light gray clay well sorted fine sand, trace wood fragments,
11	12			trace muscovite
12	13		0.0	
13	14			
14	15		0.0	
15	16			10 YR 5/2 grayish brown clayey well sorted subangular medium sand,
16	17		0.3	some muscovite
17	18			
18	19		0.1	
19	20			
20	21		1.0	10 YR 5/2 grayish brown soft high plasticity clay
21	22			10 YR 5/2 grayish brown poorly sorted clayey fine to medium subangular sand
22	23		3.3	
23	24			
24	25		15.5	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF102 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/15/2009 Drilling Completed 12/15/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		1.9	
27	28			
28	29		0.5	
29	30			
30	31		0.6	10 YR 6/1 gray silty well sorted fine sand
31	32			
32	33		0.4	10 YR 6/1 gray interbedded silty well sorted fine sand and soft high plasticity
33	34			clay, trace wood fragments
34	35		0.4	
35	36			
36	37		0.3	
37	38			10 YR 6/1 gray interbedded silty poorly sorted medium to coarse subangular
38	39		0.5	sand and sandy soft high plasticity clay
39	40			
40	41		0.2	
41	42			
42	43		0.4	
43	44			
44	45		0.3	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF102 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/15/2009 Drilling Completed 12/15/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt ~0-6"
0	1			10 YR 4/1 silty poorly sorted sand and subangular gravel
1	2			10 YR 5/4 yellowish brown silty well sorted fine sand
2	3		0.2	10 YR 6/6 brownish yellow sandy soft moderate plasticity clay
3	4			7.5 YR 6/6 reddish yellow silty well sorted fine sand
4	5		0.2	
5	6			7.5 YR 7/6 reddish yellow medium firm high plasticity clay
6	7		0.2	10 YR 7/3 very pale brown silty well sorted fine sand, wet
7	8			
8	9		1.5	
9	10			
10	11		1.5	
11	12			10 YR 7/1 light gray silty well sorted fine sand
12	13		1.0	
13	14			
14	15		2.9	
15	16			
16	17		0.6	
17	18			10 YR 7/1 silty to clayey poorly sorted fine to medium subrounded sand
18	19		2.8	
19	20			
20	21		0.4	
21	22			
22	23		0.4	10 YR 6/1 gray silty to clayey poorly sorted fine to medium subangular sand
23	24			with trace muscovite
24	25		0.3	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF103 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.3	
27	28			
28	29		0.3	
29	30			
30	31		0.4	
31	32			
32	33		0.4	
33	34			
34	35		0.3	
35	36			
36	37		0.2	10 YR 6/1 gray silty poorly sorted fine to medium subangular sand
37	38			
38	39		0.3	
39	40			
40	41		0.2	
41	42			
42	43		0.2	10 YR 6/1 gray interbedded silty well sorted fine sand and high plasticity clay
43	44			
44	45		0.4	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF103 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description asphalt ~1"
0	1			10 YR 5/2 grayish brown silty well sorted fine sand
1	2			10 YR 8/2 very pale brown silty well sorted fine sand
2	3		0.3	10 YR 4/2 dark grayish brown silty well sorted fine sand
3	4			10 YR 5/2 grayish brown sandy soft high plasticity clay
4	5		0.3	
5	6			10 YR 7/3 very pale brown clayey wel lsorted fine sand, wet
6	7		2.2	
7	8			10 YR 6/6 brownish yellow silty well sorted fine sand, some dark brown mottling
8	9		5.9	
9	10			
10	11		4.8	
11	12			
12	13		4.1	
13	14			
14	15		1.2	10 YR 7/1 light gray silty well sorted fine sand
15	16			
16	17		0.3	
17	18			
18	19		0.3	10 YR 6/1 gray silty well sorted fine sand, trace muscovite
19	20			
20	21		0.3	
21	22			10 YR 6/1 gray silty to clayey poorly sorted fine to medium subangular sand,
22	23		0.4	trace muscovite
23	24			
24	25		0.5	10 YR 6/1 gray silty well sorted fine sand

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF104 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.5	
27	28			
28	29		0.7	
29	30			
30	31		0.5	
31	32			
32	33		0.5	
33	34			
34	35		0.5	
35	36			10 YR 6/1 gray silty to clayey poorly sorted medium to very coarse subangular
36	37		0.3	sand, some subrounded fine gravel
37	38			
38	39		0.3	
39	40			
40	41		0.5	
41	42			10 YR 6/1 gray silty poorly sorted fine to medium subangular sand
42	43		0.2	
43	44			
44	45		0.2	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF104 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description concrete ~0-3"
0	1			10 YR 7/3 very pale brown silty well sorted fine sand
1	2			
2	3		0.3	10 YR 7/1 light gray well sorted fine sand
3	4			10 YR 6/6 brownish yellow clayey well sorted fine sand
4	5		0.3	
5	6			7.5 YR 6/6 reddish yellow medium firm high plasticity sandy clay
6	7		0.2	
7	8			
8	9		0.3	10 YR 7/2 very pale brown silty to clayey well sorted fine sand
9	10			7.5 YR 7/6 reddish yellow silty well sorted fine sand, wet
10	11		0.4	10 YR 7/4 very pale brown silty well sorted fine sand
11	12			
12	13		0.3	
13	14			
14	15		0.3	
15	16			10 YR 7/1 light gray silty well sorted fine sand
16	17		0.9	
17	18			10 YR 6/1 gray silty to clayey well sorted fine sand
18	19		1.4	
19	20			
20	21		2.3	
21	22			
22	23		1.9	10 YR 6/1 silty to clayey poorly sorted fine to medium subangular sand,
23	24			trace muscovite
24	25		6.0	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF105 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.2	
27	28			
28	29		0.1	10 YR 6/1 gray silty well sorted fine sand
29	30			
30	31		0.3	
31	32			
32	33		0.3	
33	34			
34	35		0.3	10 YR 5/1 gray interbedded silty well sorted fine sand and soft high plasticity
35	36			clay, sand grades to interbedded poorly sorted medium to coarse subangular
36	37		0.2	sand and soft high plasticity clay
37	38			
38	39		0.2	
39	40			
40	41		0.2	
41	42			
42	43		0.2	
43	44			
44	45		0.2	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF105 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/16/2009 Drilling Completed 12/16/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description concrete ~0-1"
0	1			10 YR 4/3 brown silty well sorted fine sand
1	2			10 YR 6/3 pale brown silty well sorted fine sand
2	3		0.1	10 YR 7/2 light gray well sorted fine sand
3	4			
4	5		0.3	
5	6			7.5 YR 7/6 reddish yellow medium firm high plasticity sandy clay
6	7		0.2	
7	8			10 YR 7/2 light gray medium firm high plasticity sandy clay
8	9		0.2	7.5 YR 7/6 reddish yellow well sorted clayey fine sand
9	10			10 YR 7/2 light gray silty well sorted fine sand, wet
10	11		0.2	
11	12			
12	13		0.2	
13	14			
14	15		0.2	
15	16			10 YR 6/2 light brownish gray clayey well sorted fine sand
16	17		0.1	
17	18			
18	19		0.3	10 YR 6/1 gray clayey well sorted fine sand
19	20			
20	21		0.1	10 YR 6/1 gray clayey poorly sorted fine to coarse subrounded to subangular
21	22			sand
22	23		0.2	
23	24			
24	25		2.2	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF107 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/17/2009 Drilling Completed 12/17/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 5/1 gray poorly sorted medium to very coarse subangular sand with some
26	27		0.3	subrounded fine gravel and interbedded 10 YR 5/1 gray soft high plasticity
27	28			clay
28	29		0.3	
29	30			
30	31		0.3	
31	32			
32	33		0.2	
33	34			
34	35		0.2	
35	36			10 YR 5/1 gray silty poorly sorted fine to very coarse subangular sand, ~1" thick
36	37		0.2	sandy clay lens @ 37', 38.5' and 39'
37	38			
38	39		0.3	
39	40			
40	41		0.4	10 YR 5/1 gray silty poorly sorted medium to very coarse subangular sand
41	42			
42	43		0.2	
43	44			
44	45		0.4	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF107 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/17/2009 Drilling Completed 12/17/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 4/2 dark grayish brown silty well sorted fine sand
1	2			10 YR 7/3 very pale brown poorly sorted medium to coarse subangular sand
2	3		0.0	
3	4			10 YR 6/1 gray poorly sorted medium to coarse subangular sand, wet @ 4'
4	5		0.2	
5	6			10 YR 4/2 dark grayish brown medium firm high plasticity clay
6	7		0.3	
7	8			
8	9		0.3	
9	10			10 YR 6/1 gray medium firm high plasticity clay, some medium sand and
10	11		0.2	wood fragments
11	12			
12	13		0.1	
13	14			10 YR 4/2 dark grayish brown silty to clayey poorly sorted fine to coarse
14	15		0.5	subangular sand, some wood fragments
15	16			
16	17		0.2	10 YR 5/1 silty poorly sorted fine to medium subangular sand, some muscovite
17	18			
18	19		0.3	
19	20			10 YR 5/1 gray soft high plasticity clay
20	21		0.2	10 YR 5/1 gray clayey poorly sorted fine to medium subangular sand,
21	22			some muscovite
22	23		0.2	
23	24			
24	25		0.4	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF108 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/17/2009 Drilling Completed 12/17/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.3	10 YR 5/1 gray interbedded poorly sorted fine to coarse subangular sand
27	28			and soft high plasticity clay
28	29		0.3	
29	30			
30	31		0.2	10 YR 5/1 gray soft high plasticity clay
31	32			
32	33		0.3	
33	34			
34	35		0.3	
35	36			10 YR 5/1 gray silty poorly sorted medium to very coarse subangular sand,
36	37		0.3	some well rounded fine gravel, ~1" thick soft high plasticity clay lens @ 38'
37	38			
38	39		0.3	
39	40			
40	41		0.2	
41	42			
42	43		0.4	10 YR 5/1 gray silty poorly sorted fine to coarse subangular sand with shell
43	44			fragments interbedded with 10 YR 5/1 gray soft high plasticity clay
44	45		0.3	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-AF108 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/17/2009 Drilling Completed 12/17/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/2 grayish brown silty to clayey well sorted fine sand
1	2			
2	3		0.3	10 YR 3/1 very dark gray medium firm high plasticity clay with wood
3	4			fragments, wet @ 5'
4	5		0.3	
5	6			
6	7		0.2	
7	8			10 YR 7/2 ligh gray clayey well sorted fine sand, trace muscovite
8	9		0.2	
9	10			
10	11		0.1	10 YR 7/2 light gray clayey poorly sorted fine to coarse subangular sand, trace
11	12			muscovite
12	13		0.3	
13	14			
14	15		0.1	10 YR 5/1 gray clayey poorly sorted fine to coarse subangular sand
15	16			
16	17		0.2	
17	18			
18	19		0.2	
19	20			
20	21		0.3	
21	22			10 YR 5/1 gray soft high plasticity sandy clay
22	23		0.3	
23	24			
24	25		0.3	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD1 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.2	10 YR 7/2 light gray silty well sorted fine sand
27	28			10 Y 8/1 light greenish gray silty well sorted fine sand
28	29		0.2	
29	30			
30	31		0.3	
31	32			
32	33		0.3	
33	34			
34	35		0.2	
35	36			
36	37		0.2	
37	38			
38	39		0.2	
39	40			10 YR 8/1 white well sorted silty fine sand
40	41		0.2	10 Y 8/1 light greenish gray wilty well sorted fine sand
41	42			
42	43		0.2	
43	44			
44	45		0.2	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD1 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/3 brown silty well sorted fine sand
1	2			10 YR 8/3 very pale brown silty well sorted fine sand
2	3		0.7	
3	4			
4	5		0.8	
5	6			5 YR 6/6 reddish yellow silty well sorted fine sand
6	7		0.5	
7	8			10 YR 7/2 light gray well sorted medium sand, subangular
8	9		0.3	
9	10			
10	11		0.2	
11	12			
12	13		0.3	10 YR 8/3 very pale brown well sorted subangular medium sand
13	14			
14	15		0.3	
15	16			
16	17		0.3	10 Y 8/1 light greenish gray silty well sorted fine sand
17	18			
18	19		0.3	
19	20			
20	21		0.2	
21	22			
22	23		0.2	
23	24			10 YR 7/1 gray well sorted fine sand
24	25		0.2	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD2 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.3	
27	28			
28	29		0.3	
29	30			
30	31		0.1	
31	32			10 YR 8/1 white silty well sorted subangular medium sand
32	33		0.4	
33	34			10 Y 8/1 light greenish gray well sorted fine sand
34	35		0.4	
35	36			
36	37		0.2	
37	38			
38	39		0.4	
39	40			39.0'-39.5' is 7.5 YR 7/6 reddish yellow silty well sorted fine sand, 39.5' begins
40	41		0.3	10 YR 6/1 gray silty to clayey well sorted fine sand
41	42			10 YR 6/1 gray silty well sorted fine sand
42	43		0.2	
43	44			
44	45		0.4	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD2 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/4 yellowish brown silty well sorted fine sand, roots
1	2			10 YR 7/6 yellow silty well sorted fine sand
2	3		0.1	10 YR 4/3 brown medium firm sandy clay, moderate plasticity
3	4			10 YR 6/3 pale brown silty well sorted fine sand
4	5		0.1	10 YR 3/1 very dark gray silty well sorted fine sand, wood fragments
5	6			10 YR 7/3 very pale brown silty well sorted fine sand, wet
6	7		1.4	
7	8			10 YR 7/1 light gray silty well sorted fine sand
8	9		0.2	
9	10			
10	11		0.2	
11	12			
12	13		0.4	10 YR 5/6 yellowish brown silty well sorted fine sand
13	14			10 Y 8/1 light greenish gray firm moderate plasticity clay
14	15		0.4	10 Y 8/1 light greenish gray silty well sorted fine sand
15	16			
16	17		0.2	
17	18			
18	19		0.2	
19	20			
20	21		0.0	
21	22			
22	23		0.2	
23	24			
24	25		0.2	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD3 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			
26	27		0.0	
27	28			10 Y 8/1 light greenish gray clayey well sorted fine sand
28	29		0.2	
29	30			
30	31		0.2	10 YR 7/1 light gray silty well sorted fine sand
31	32			
32	33		0.1	
33	34			
34	35		0.2	
35	36			
36	37		0.3	
37	38			
38	39		0.3	
39	40			10 YR 8/1 white silty well sorted fine sand
40	41		0.2	
41	42			
42	43		0.3	
43	44			
44	45		0.3	10 YR 8/1 white silty well sorted fine sand and interbedded 10 YR 6/1 gray sandy
45	46			soft clay
46	47			END OF BORING
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-FD3 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 4/2 dark grayish brown well sorted silty fine sand, roots
1	2			10 YR 7/3 very pale brown firm high plasticity clay
2	3		0.0	10 YR 3/1 very dark gray silty well sorted fine sand, roots
3	4			10 YR 4/4 dark yellowish brown silty well sorted fine sand
4	5		0.0	10 YR 7/3 very pale brown silty well sorted fine sand, wood fragments
5	6			
6	7		0.0	
7	8			
8	9		0.2	wet @ ~8'
9	10			
10	11		3.0	
11	12			
12	13		0.7	
13	14			
14	15		0.5	10 YR 7/1 light gray to 10 YR 7/3 very pale brown silty well sorted fine sand
15	16			(to 15.5') 15.5' is 10 GY 8/1 light greenish gray firm clayey well sorted fine sand,
16	17		0.4	low plasticity
17	18			16' is 10 YR 7/1 light gray well sorted silty fine sand
18	19		0.3	
19	20			
20	21		0.1	
21	22			
22	23		0.1	
23	24			
24	25		0.3	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF1 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/11/2009 Drilling Completed 12/11/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 7/1 light gray well sorted silty fine sand
26	27		0.3	
27	28			
28	29		0.2	7.5 YR 7/6 reddish yellow silty well sorted fine sand
29	30			
30	31		0.2	7.5 YR 7/6 reddish yellow poorly sorted fine-coarse silty subangular sand
31	32			
32	33		0.3	10 YR 6/1 gray silty well sorted fine sand
33	34			
34	35		0.2	
35	36			
36	37			
37	38			10 YR 6/1 gray interbedded silty fine sand, silty coarse sand, and soft, high
38	39			plasticity clay
39	40			
40	41			
41	42			
42	43			
43	44			
44	45			
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF1 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/11/2009 Drilling Completed 12/11/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 3/3 dark brown silty well sorted fine sand, roots
1	2			
2	3		0.5	10 YR 8/3 very pale brown well sorted fine sand
3	4			
4	5		0.3	
5	6			10 YR 3/3 dark brown silty fine well sorted sand, grades to 7.5 YR 5/6
6	7		8.0	strong brown with dark brown mottling, wet
7	8			
8	9		1.1	
9	10			
10	11		1.4	
11	12			
12	13		1.9	
13	14			10 YR 7/1 light gray well sorted fine sand
14	15		0.5	
15	16			10 YR 7/2 gray to 10 Y 8/1 light greenish gray silty well sorted fine sand,
16	17		0.5	yellowish red color/amination @ 22'
17	18			
18	19		0.2	
19	20			
20	21		0.5	
21	22			
22	23		0.6	
23	24			10 YR 7/6 reddish silty well sorted fine sand
24	25		0.6	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF2 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/10/2009 Drilling Completed 12/10/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 6/1 gray clayey fine well sorted sand, 2" thick lens of soft
26	27		0.3	10 YR 6/1 high plasticity clay @ 28'
27	28			
28	29		0.5	10 YR 6/1 gray silty well sorted fine sand
29	30			
30	31		0.1	
31	32			
32	33		0.2	
33	34			
34	35		0.2	
35	36			
36	37		0.3	
37	38			
38	39		0.5	10 YR 6/1 gray interbedded silty poorly sorted medium to coarse sand
39	40			and soft high plasticity clay
40	41		0.4	
41	42			
42	43		0.5	
43	44			
44	45		0.4	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF2 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/10/2009 Drilling Completed 12/10/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 3/1 very dark gray silty fine sand, roots
1	2			10 YR 7/2 very pale brown silty fine sand
2	3		0.0	10 YR 2/1 black clayey well sorted fine sand, wet
3	4			
4	5		0.0	
5	6			10 YR 4/3 brown silty well sorted fine sand, roots
6	7		0.0	10 YR 7/3 very pale brown silty poorly sorted fine to medium coarse subangular
7	8			sand
8	9		0.0	
9	10			
10	11		0.0	10 YR 7/4 very pale brown well sorted fine sand, trace muscovite
11	12			
12	13		0.2	10 YR 7/2 very pale brown well sorted fine sand, 10 YR 6/6 brownish yellow
13	14			staining from 17-17.5'
14	15		3.7	
15	16			
16	17		1.2	
17	18			10 YR 6/1 gray silty poorly sorted sub angular fine to medium sand
18	19		0.3	
19	20			
20	21		0.1	10 YR 6/1 gray silty well sorted fine sand
21	22			
22	23		0.1	
23	24			
24	25		0.1	

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF3 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/11/2009 Drilling Completed 12/11/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 10 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/6 yellowish brown silty fine sand, roots
1	2			10 YR 7/2 light gray silty fine sand, roots
2	3		479.0	10 YR 3/3 dark brown silty well sorted fine sand, wet, strong fuel odor,
3	4			oily sheen
4	5		719.0	
5	6			
6	7		1019.0	10 YR 7/3 very pale brown well sorted fine sand, some reddish brown mottling
7	8			
8	9		64.5	
9	10			
10	11			END OF BORING
11	12			
12	13			
13	14			
14	15			
15	16			
16	17			
17	18			
18	19			
19	20			
20	21			
21	22			
22	23			
23	24			
24	25			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF4 Project/No. HAA-17 Page 2 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
25	26			10 YR 8/2 very pale brown poorly sorted clayey fine to medium sand
26	27		0.0	
27	28			
28	29		0.0	
29	30			
30	31		0.0	10 YR 7/2 light gray silty well sorted fine sand
31	32			
32	33		0.0	
33	34			
34	35		0.2	
35	36			
36	37		0.2	
37	38			
38	39		0.4	10 YR 7/2 light gray silty to clayey well sorted fine sand, 2" thick lens of
39	40			7/5 YR 7/6 reddish yellow clayey well sorted fine sand @ 39'
40	41		0.3	
41	42			10 YR 6/1 gray clayey well sorted fine sand, 1"thick
42	43		0.2	10 YR 6/1 gray soft high plasticity clay lens @ 44'
43	44			
44	45		0.2	
45	46			END OF BORING
46	47			
47	48			
48	49			
49	50			

ARCADIS

SOIL CORE / SAMPLING LOG

Boring/Well H17-PF4 Project/No. HAA-17 Page 1 of 2

Site Location Savannah, GA Drilling Started 12/14/2009 Drilling Completed 12/14/2009

Drilling Contractor ARM Driller Josh Helper Mike

Drilling Fluid Used N/A Drilling Method DPT

Total Depth Drilled 45 Feet Hole Diameter 2 " Coring Device MacroCore

Prepared By JDF Hammer Weight N/A Hammer Drop N/A ins.

Soil Characterization:

Sample/Core Depth (Feet bls) From	To		PID Reading (ppm)	Sample/Core Description
0	1			10 YR 5/2 grayish brown silty well sorted fine sand, roots
1	2			10 YR 8/3 very pale brown silty well sorted fine sand
2	3		0.0	10 YR 4/2 dark grayish brown silty well sorted fine sand
3	4			
4	5		0.0	
5	6			10 YR 4/4 dark yellowish brown silty well sorted fine sand, with wood
6	7		0.0	fragments, wet
7	8			
8	9		0.0	10 YR 8/2 very pale brown well sorted fine sand with wood fragments
9	10			
10	11		0.0	
11	12			
12	13		0.0	10 Y 8/1 light greenish gray firm sandy clay, slight plasticity
13	14			10 Y 8/1 light greenish gray well sorted fine sand
14	15		0.0	10 YR 8/2 very pale brown well sorted fine sand
15	16			
16	17		0.0	
17	18			
18	19		0.0	
19	20			
20	21		0.0	10 YR 7/2 gray well sorted fine sand, sand composed of ~10% black fine
21	22			sand grains
22	23		0.0	
23	24			
24	25		0.0	

Site: Hunter Army Airfield - HAA-17
Name of Field Personnel:

Water Level Collection Form

Well ID	Date	Time	Water Level (ft btoc)		Comments
AF-07	2/9/10	1033	2.22	*	UNDER Shipping Container / Moved
AF-13	2/9/10	0821	1.31		Collected DTW on 3/4" PVC
AF-14	2/9/10	0818	1.47		
AF-23	2/9/10	1036	2.89	*	UNDER TRUCK
AF-35				*	Artesian / Flooded Area
+ AF-36				*	UNABLE TO Locate
+ AF-38				*	Marked as Destroyed / UNABLE TO Locate
+ AF-40				*	↕
+ AF-40				*	UNDER Shipping Container
AF-54	2/9/10	0822	1.83		
AF-55	2/9/10	0859	2.25		
AF-56	2/9/10	0814	2.23		
AF-57	2/9/10	0852	1.30		
AF-58	2/9/10	0858	4.72		
AF-68	2/9/10	0845	3.02		
AF-69		0819	3.79		
+ AT-MW-01				*	UNABLE TO Locate
AT-MW-02	2/9/10	0956	~~2.73~~ 2.61		
AT-MW-03	2/9/10	0955	2.73 ↕		↕
AT-MW-03				**	
AT-MW-04			Destroied		Manhole cover busted, Full of sand
AT-MW-05					Not Located on Map
MW-2S	2/8/10	1701	4.30		
MW-2D	2/8/10	1703	4.35		
MW-3S	2/9/10	1148	4.90	*	UNABLE TO OPEN Manhole
MW-3D	2/9/10	1147	4.94	*	↓
MW-5S	2/8/10	1722	4.46		
MW-5D	2/8/10	1723	4.49		
MW-7S	~~2/8~~ 2/9/10	1238	4.31		Air Field ↓
MW-7D	2/9/10	1236	4.15		
MW-8S	2/8/10	1633	3.66		
MW-8D	2/8/10	1635	3.84		
MW-9S	2/8/10	1622	5.40		
MW-9D	2/8/10	1623	7.11		
MW-12S	2/9/10	1227	5.76		Air ~~Field~~ Field ↓
MW-12D	2/9/10	1225	5.91		
MW-13S	2/8/10	1647	4.35		
MW-13D	2/8/10	1648	4.71		
MW-16S	2/8/10	1611	1.35		

+ = Searched w/ Metal Detector

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	MW-8D
Date:	2-16-10	Sampled By:	Ryan Kontos		
Sampling Time:	1548	Recorded By:	Ryan Kontos		
Weather:	Clear ~50°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ P#10222	LaMotte 2020/ R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	14.5 To: 24.5
Total Depth:	24.5	Pump Intake Setting:	~19.5
Depth to Water:	4.03	Volumes to be Purged:	Low Flow
Water Column:	20.47	Total Volume Purged:	~1.75
Gallons/Foot:	0.04	Pump On:	1511 Off: 1546
Gallons in Well:	0.81		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
1516	5	200ml	1000	4.21	16.3	5.89	190	18.67	0.79	118.9
1521	10	↓	↓	4.22	9.11	5.97	191	19.31	0.53	105.1
1526	15			4.22	5.15	6.02	193	19.30	0.47	90.4
1531	20			4.22	4.89	6.00	195	19.37	0.42	78.3
1536	25			4.22	3.71	5.98	196	19.41	0.39	71.2
1541	30			4.22	3.36	5.99	196	19.40	0.36	67.5
1546	35	↓	↓	4.22	3.54	6.00	198	19.38	0.27	65.1

Observations During Sampling

Well Condition:	PVC	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10NTUs
Odor:	NONE	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description: From Lab	ARCADIS	Preservative
VOCs	3x 40ml	CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	Well ID:	MW-8S
Date:	2-16-10	Sampled By:	Ryan Kontos		
Sampling Time:	1453	Recorded By:	Ryan Kontos		
Weather:	Clear ~50°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R10222	Lamotte 2020 / R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	5.4	To:	15.4
Total Depth:	15.4	Pump Intake Setting:	10.4		
Depth to Water:	3.83	Volumes to be Purged:	Low Flow		
Water Column:	11.57	Total Volume Purged:	~1.75		
Gallons/Foot:	0.04	Pump On:	1416	Off:	1451
Gallons in Well:	0.46				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1421	5	200 ml	1000	3.90	19.0	5.85	188	17.69	0.97	115.1
1426	10	↓	↓	3.90	13.8	5.93	191	18.06	0.67	116.0
1431	15			3.90	12.6	5.92	193	18.11	0.39	125.0
1436	20			3.90	5.14	5.91	194	18.20	0.30	130.4
1441	25			3.90	3.71	5.93	193	18.15	0.26	128.5
1446	30			3.90	2.96	5.95	193	18.23	0.21	125.9
1451	35	↓	↓	3.90	3.35	5.98	193	18.29	0.25	129.3

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3 x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS **Well ID:** MW-90
Date: 2-16-10 Sampled By: Ryan Kontos
Sampling Time: 1337 Recorded By: Ryan Kontos
Weather: Clear ~50° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R10222	Lamotte 2020/ R9151

Purging Information

Casing Material: PVC
Casing Diameter: 1"
Total Depth: 30.39
Depth to Water: 7.23
Water Column: 23.16
Gallons/Foot: 0.04
Gallons in Well: 0.92

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 20.39 To: 30.39
Pump Intake Setting: 25'
Volumes to be Purged: Low Flow
Total Volume Purged: ~1.75gal
Pump On: 1300 Off: 1335

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
1305	5	200ml	1000	7.51	84.1	6.06	98	19.51	0.80	-55.1
1310	10	↓	↓	7.52	25.1	5.85	96	19.53	0.54	-57.2
1315	15			7.52	12.1	5.81	96	19.60	0.45	-59.2
1320	20			7.52	11.7	5.80	96	19.66	0.43	-61.3
1325	25			7.52	8.41	5.79	95	19.70	0.50	-63.3
1330	30			7.52	7.03	5.79	95	19.73	0.51	-67.4
1335	35	↓	↓	7.52	5.95	5.78	95	19.70	0.48	-68.1

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: NONE

Purge Water Disposal: Drum
Turbidity(qualitative): Clear
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** MW-9S
Date: 2-16-10 | Sampled By: Ryan Kontos
Sampling Time: 1247 | Recorded By: Ryan Kontos
Weather: Cold ~40° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R10222	Lamotte 2020 / R9151

Purging Information

Casing Material: PVC
Casing Diameter: @1"
Total Depth: 15.55
Depth to Water: 5.61
Water Column: 9.94
Gallons/Foot: 0.04
Gallons in Well: 0.39

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 5.55 To: 15.55
Pump Intake Setting: 10.5
Volumes to be Purged: Low Flow
Total Volume Purged: ~1.75gal
Pump On: 1210 Off: 1245

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1215	~~15~~ 5	200ml	1000	5.66	27.6	5.55	160	16.72	2.70	89.3
1220	10	↓	↓	5.66	17.5	5.63	162	16.89	2.36	72.1
1225	15			5.66	8.21	5.69	162	17.38	2.48	33.3
1230	20			5.66	6.69	5.73	163	17.25	2.28	3.7
1235	25			5.66	6.91	5.67	162	17.43	2.25	-6.4
1240	30			5.66	5.23	5.69	163	17.39	2.19	-10.7
1245	35	↓	↓	5.66	4.51	5.73	163	17.35	2.15	-13.6
~~1250~~	~~40~~									

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: Slight

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTU
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
VOC	3x40ml HCl	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA 17	Project No.	GP08HAFS	**Well ID:**	MW-13S
Date:	2-16-10	Sampled By:	Ryan Kontos		
Sampling Time:	1148	Recorded By:	Ryan Kontos		
Weather:	cold ~35°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	~~PID~~	Water Quality Meter(s)
Serial #:	YSI 556 / R10222	Lamotte 2020 / R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder / Bailer / (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	5.59	To:	15.59
Total Depth:	15.59	Pump Intake Setting:	10.6		
Depth to Water:	4.73	Volumes to be Purged:	Low Flow		
Water Column:	10.86	Total Volume Purged:			
Gallons/Foot:	0.04	Pump On:	1116	Off:	1146
Gallons in Well:	0.43				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
1121	5	200ml	1000	4.77	3.81	5.86	74	18.72	0.72	57.8
1126	10	↓	↓	4.77	3.27	5.71	75	19.52	0.56	65.0
1131	15			4.77	2.83	5.75	75	20.32	0.48	57.1
1136	20			4.77	2.69	5.81	75	20.56	0.40	42.5
1141	25			4.77	2.55	5.79	74	20.45	0.33	30.5
1146	30	↓	↓	4.77	2.59	5.78	74	20.34	0.31	18.1

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	Clear
Odor:	Slight	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3 x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	Well ID:	MW-13D
Date:	2-16-10	Sampled By:	Ryan Kontos		
Sampling Time:	1103	Recorded By:	Ryan Kontos		
Weather:	Cold ~35°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R10222	Lamotte 2020 / R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)	
Casing Diameter:	1"	Screen Interval: From:	20.01 To: 30.01
Total Depth:	30.01	Pump Intake Setting:	25'
Depth to Water:	4.41	Volumes to be Purged:	Low Flow
Water Column:	25.6	Total Volume Purged:	~3.5 gal
Gallons/Foot:	~~0.16~~ 0.04	Pump On:	0951 Off: 1101
Gallons in Well:	1.0		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
0956	5	200ml	1000	4.45	214	3.45	82	17.02	1.60	263.2
1001	10	↓	↓	4.45	168	4.20	85	17.06	0.97	196.7
1006	15			4.45	108.7	4.74	87	17.18	0.84	162.5
1011	20			4.45	71.6	4.83	88	17.39	0.79	141.5
1016	25			4.45	66.3	4.98	89	17.56	0.66	126.3
1021	30			4.45	58.1	5.13	91	17.85	0.60	105.6
1026	35			4.45	53.6	5.35	92	18.07	0.50	90.0
1031	40			4.45	49.4	5.42	93	17.99	0.47	74.2
1036	45			4.45	35.1	5.42	95	18.04	0.45	85.5
1041	50			4.45	25.0	5.44	94	18.16	0.41	41.6
1046	55			4.45	13.4	5.45	95	18.31	0.36	37.1
1051	60			4.45	8.54	5.46	96	18.48	0.38	32.0
1056	65			4.45	7.11	5.49	95	18.50	0.43	23.9
1101	70	↓	↓	4.45	9.55	5.51	95	18.51	0.39	17.8
	~~70~~									

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	Slight	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
8 VOC	3x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS Well ID: MW-5S

Date: 2-16-10 Sampled By: Ryan Kontos

Sampling Time: 0932 Recorded By: Ryan Kontos

Weather: Cold ~30° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI R10222	Lamotte 2020/ IR9151

Purging Information

Casing Material: PVC

Casing Diameter: 1"

Total Depth: 15.8

Depth to Water: 4.44

Water Column: 11.36

Gallons/Foot: 0.04

Gallons in Well: 0.45

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 5.8 To: 15.8

Pump Intake Setting: 10.8

Volumes to be Purged: Low Flow

Total Volume Purged: ~1.75 gal

Pump On: 0855 Off: 0930

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
0900	05	200ml	1000	4.47	8.29	4.91	104	17.14	1.13	244.7
0905	10	↓	↓	4.47	6.69	4.94	104	17.23	0.84	217.6
0910	15			4.47	5.23	4.99	104	17.38	0.69	200.4
0915	20			4.47	4.41	5.04	105	17.41	0.55	188.5
0920	25			4.47	5.38	5.08	103	17.46	0.49	175.1
0925	30			4.47	3.91	5.05	103	17.48	0.45	161.3
0930	35	↓	↓	4.47	3.86	5.04	103	17.50	0.44	158.5

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: Slight

Purge Water Disposal: Drum

Turbidity(qualitative): <10 NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS Well ID: MW-5D

Date: 2-16-10 Sampled By: Ryan Kontos

Sampling Time: 0839 Recorded By: Ryan Kontos

Weather: Cold ~30° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI R10222	Kamotte 2020/ R9151

Purging Information

Casing Material: PVC

Casing Diameter: 1"

Total Depth: 30

Depth to Water: 4.50

Water Column: 25.5

Gallons/Foot: 0.04

Gallons in Well: 1.02

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 20 To: 30

Pump Intake Setting: Middle of screen 25'

Volumes to be Purged: Low Flow

Total Volume Purged: ~1.75 gal

Pump On: 0802 Off: 0837

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
0807	5	200ml	1000	4.60	13.0	4.72	124	18.39	1.65	307.2
0812	10			4.61	9.81	4.64	125	18.30	1.04	331.1
0817	15			4.61	12.9	4.56	123	18.36	0.90	321.4
0822	20			4.61	10.56	4.59	122	18.41	0.79	318.6
0827	25			4.61	9.11	4.61	122	18.44	0.66	311.1
0832	30			4.61	8.19	4.62	121	18.51	0.49	308.4
0837	35	↓	↓	4.61	8.88	4.64	121	18.53	0.45	303.5

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: NONE

Purge Water Disposal: Drum

Turbidity(qualitative): <10 NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab ____ ARCADIS ____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

Table 1. Summary of Well Construction and Groundwater Level

MW-ID	Installation Date	Installer	Well Material	Screen Length (ft)	Total Depth (ft BGS)	Screen Interval (ft BGS)	Northing	Easting	Top of Casing (AMSL)	Ground Elevation (AMSL)
1290-MW-01D	05/07	STEP	1-in. PVC	10	29.95	19.95 - 29.95	735508.85	977102.38	36.40	36.6
1290-MW-01S		STEP	1-in. PVC	10	15.72	5.72 - 15.72	735513.98	977100.64	36.43	36.7
1290-MW-02D		STEP	1-in. PVC	10	29.90	19.90 - 29.90	735420.23	977197.88	36.05	36.3
1290-MW-02S		STEP	1-in. PVC	10	14.3	4.3 - 14.3	735423.99	977200.20	36.05	36.3
1290-MW-03D		STEP	1-in. PVC	10	29.58	19.59 - 29.58	735289.03	977078.47	[a]	36.54
1290-MW-03S		STEP	1-in. PVC	5	11.70	6.70 - 11.70	735288.83	977069.78	[a]	36.59
1290-MW-04D		STEP	1-in. PVC	10	29.91	19.91 - 29.91	735425.92	977010.12	36.25	36.5
1290-MW-04S		STEP	1-in. PVC	10	15.66	5.66 - 15.66	735420.53	977010.17	36.23	36.5
1290-MW-05D		STEP	1-in. PVC	10	30.0	20.0 - 30.0	735980.30	977154.14	36.16	36.4
1290-MW-05S		STEP	1-in. PVC	10	15.80	5.80 - 15.80	735978.23	977150.92	36.14	36.4
1290-MW-06S		STEP	1-in. PVC	5	9.0	4.0 - 9.0	736237.28	977477.86	36.03	36.3
1290-MW-07D		STEP	1-in. PVC	10	34.6	24.6 - 34.6	734742.41	975723.20	36.93	37.2
1290-MW-07S		STEP	1-in. PVC	10	17.89	7.89 - 17.89	734738.23	975725.28	36.92	37.3
1290-MW-08D		STEP	1-in. PVC	10	24.50	14.50 - 24.50	735083.08	977800.64	36.72	37.0
1290-MW-08S		STEP	1-in. PVC	10	15.40	5.40 - 15.40	735078.48	977799.65	36.53	36.9
1290-MW-09D		STEP	1-in. PVC	10	30.39	20.39 - 30.39	734986.65	978528.67	37.35	37.7
1290-MW-09S		STEP	1-in. PVC	10	15.55	5.55 - 15.55	734989.07	978523.22	37.39	37.8
1290-MW-12D		STEP	1-in. PVC	10	34.3	24.3 - 34.3	735583.27	976441.49	37.27	37.5
1290-MW-12S		STEP	1-in. PVC	10	17.6	7.6 - 17.6	735576.76	976442.09	37.29	37.5
1290-MW-13D		STEP	1-in. PVC	10	30.01	20.01 - 30.01	734833.43	977242.99	36.81	37.1
1290-MW-13S		STEP	1-in. PVC	10	15.59	5.59 - 15.59	734827.57	977244.61	36.63	36.9
1290-MW-16	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	734429.82	978718.65	30.33	30.4
1290-MW-15	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	734550.89	978703.92	31.30	31.4

[a]Monitoring wells 1290-MW-03S and 1290-MW-03D unable to open well plug. Ground shots reported are on rim of protective cover of well.
AMSL = Above mean sea level.
BGS = Below ground surface.
D= Deep well.
PVC = Polyvinyl chloride.
S= Shallow well.
STEP = Solutions to Environmental Problems, Inc.

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** MW-16S
Date: 2-17-10 | Sampled By: Ryan Kontos
Sampling Time: 1012 | Recorded By: Ryan Kontos
Weather: Clear ~35° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R10222	Lanotte 2020 / R915-1

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 12.9
Depth to Water: 1.65
Water Column: 11.25
Gallons/Foot: 0.16
Gallons in Well: 1.8

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 2.9 To: 12.9
Pump Intake Setting: 8'
Volumes to be Purged: Low Flow
Total Volume Purged: ~1.75 gal
Pump On: 0935 Off: 1010

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0940	~~0~~ 5	200ml	1000ml	1.68	13.2	5.62	147	14.10	132.0	1.31	
0945	10	↓	↓	1.68	12.2	5.79	148	15.80	32.6	0.67	
0950	15			1.68	10.13	5.85	150	16.54	-1.9	0.45	
0955	20			1.68	9.15	5.93	155	17.09	-25.4	0.37	
1000	25			1.68	8.65	5.99	156	17.24	-32.1	0.36	
1005	30			1.68	7.75	6.04	155	17.28	-31.5	0.34	
1010	35	↓	↓	1.68	7.01	6.07	154	17.31	-29.1	0.31	

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTUs
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab _____ ARCADIS _____	Preservative
8 VOCs	3x40ml CG	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	AT-MW-3
Date:	2-17-10	Sampled By:	Ryan Kontos		
Sampling Time:	1314	Recorded By:	Ryan Kontos		
Weather:	Clear ~ 45°	Duplicate/QA/QC:	Collected DUP-2		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI-556/R10222	Lamotte 2020/R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder	Bailer	(Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	2.2	To:	12.2		
Total Depth:	12.2	Pump Intake Setting:	7'				
Depth to Water:	1.04	Volumes to be Purged:	Low Flow				
Water Column:	10.98	Total Volume Purged:	6.25gal				
Gallons/Foot:	0.16	Pump On:	1100	Off:	1305		
Gallons in Well:	1.75						

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1105	~~105~~ 5	200ml	1000ml	1.08	408	5.74	43	14.51	69.0	2.30	Brown H2O
1110	~~110~~ 10	↓	↓	1.08	130	5.56	63	14.32	36.4	0.51	
1115	15			1.08	111	5.55	63	14.41	22.1	0.48	
1120	20			1.08	123	5.56	62	14.47	17.3	0.45	
1125	25			1.08	96.9	5.56	62	14.52	8.7	0.41	
1130	30			1.08	81.9	5.45	60	14.71	1.5	0.40	
1135	35			1.08	77.3	5.41	58	14.80	-11	0.37	1 vol
1140	40			1.08	61.0	5.45	58	14.85	-18.3	0.25	
1145	45			1.08	49.6	5.49	59	14.92	-26.1	0.19	
1150	50			1.08	45.1	5.41	58	15.02	-29.6	0.27	
1155	55			1.08	40.1	5.43	58	15.15	-31.5	0.21	
1200	60			1.08	34.4	5.45	57	15.35	-36.0	0.15	
1205	65			1.08	31.1	5.44	56	15.40	-36.9	0.14	
1210	70			1.08	29.5	5.42	56	15.46	-37.5	0.14	2 vol
1215	75	↓	↓	1.08	30.6	5.41	55	15.50	-37.9	0.13	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	slight	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC's	6 x 40ml CG	HCL
6010 Metals	2 x 250cc PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** AT-MW-3

Date: 2-17-10 | Sampled By: Ryan Kontos

Sampling Time: 1314 | Recorded By: Ryan Kontos

Weather: Clear Breezy ~45° | Duplicate/QA/QC: DUP-2 / Time 1200

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R10222	Camotte 2020/ R9951

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 12.2

Depth to Water: 1.04

Water Column: 10.98

Gallons/Foot: 0.16

Gallons in Well: 1.75

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 2-2 To: 12.2

Pump Intake Setting: 7'

Volumes to be Purged: Low Flow

Total Volume Purged: 6.25gal

Pump On: 1100 Off: 1305

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1220	80	200ml	1000ml	1.08	23.5	5.39	55	15.54	-38.0	0.13	
1225	85			1.08	21.6	5.37	55	15.57	-36.1	0.14	
1230	90			1.08	20.2	5.36	55	15.58	-34.9	0.15	
1235	95			1.08	18.3	5.37	54	15.61	-33.0	0.13	
1240	100			1.08	16.0	5.38	54	15.66	-31.3	0.11	
1245	105			1.08	14.1	5.39	54	15.70	-30.3	0.19	3 vol
1250	110			1.08	11.5	5.39	54	15.72	-30.0	0.15	
1255	115			1.08	9.91	5.40	53	15.75	-29.5	0.16	
1300	120			1.08	9.27	5.40	53	15.80	-29.1	0.14	
1305	125			1.08	8.38	5.40	53	15.83	-28.7	0.12	

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: Slight

Purge Water Disposal: Drum

Turbidity(qualitative): <10 NTU's

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOC's	6x40ml CG	HCL
6010 Metals	2x250cc PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS Well ID: AT-MW-5

Date: 8-17-10 Sampled By: Ryan Kontos

Sampling Time: 1408 Recorded By: Ryan Kontos

Weather: Clear Breezy ~45° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R10222	Lamotte 2020/ R9157

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 12.3

Depth to Water: 2.11

Water Column: 10.21

Gallons/Foot: 0.16

Gallons in Well: 1.6

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 2.3 To: 12.3

Pump Intake Setting: 8'

Volumes to be Purged: Low Flow

Total Volume Purged: ~1.75 gal

Pump On: 1329 Off: 1404

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1334	5	200ml	1000ml	2.15	16.5	5.87	105	13.89	39.1	2.43	
1339	10	↓	↓	2.16	14.1	5.94	108	13.61	39.8	2.50	
1344	15			2.16	11.9	5.94	109	13.63	33.7	2.43	
1349	20			2.16	9.56	5.96	109	13.70	20.1	2.31	
1354	25			2.16	8.99	5.98	110	13.77	11.6	2.23	
1359	30			2.16	8.23	6.00	110	13.83	-8.0	2.20	
1404	35	↓	↓	2.16	4.71	6.03	111	13.88	-15.6	2.23	

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: NONE

Purge Water Disposal: Drum

Turbidity(qualitative): <10NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOCs	3 x 40ml GG	HCL
6010 Metals	1 x 250 cc PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	**Well ID:**	AT-MW-02
Date:	2-17-10	Sampled By:	Ryan Kontos		
Sampling Time:	1516	Recorded By:	Ryan Kontos		
Weather:	Clear Cold ~45°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI/556 R10222	Lamotte 2020/R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	2.3	To:	12.3
Total Depth:	12.3	Pump Intake Setting:	7'		
Depth to Water:	1.40	Volumes to be Purged:	Low Flow		
Water Column:	10.9	Total Volume Purged:			
Gallons/Foot:	0.16	Pump On:	1422	Off:	1512
Gallons in Well:	1.7				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1427	5	200ml	1000ml	1.45	29.7	5.36	53	14.17	52.9	2.64	
1432	10	↓	↓	1.45	24.2	5.36	55	14.31	55.5	2.39	
1437	15			1.45	21.1	5.36	58	14.46	58.0	2.21	
1442	20			1.45	20.2	5.42	60	14.50	30.2	2.00	
1447	25			1.45	18.5	5.49	61	14.54	15.8	1.75	
1452	30			1.45	12.6	5.49	61	14.59	12.1	1.66	
1457	35			1.45	10.98	5.48	61	14.62	8.8	1.61	
1502	40			1.45	8.71	5.48	62	14.69	6.6	1.55	
1507	45			1.45	8.54	5.47	62	14.65	7.4	1.48	
1512	50	↓	↓	1.45	9.68	5.47	62	14.68	8.1	1.51	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	slight	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOCs	3x40ml CG	HCL
6010 Metals	1x1250ml PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	**Well ID:**	AT-MW-1
Date:	2-17-10	Sampled By:	Ryan Kontos		
Sampling Time:	1615	Recorded By:	Ryan Kontos		
Weather:	Clear Breezy ~45°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R10222	Lamotte 2020/ R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder / Bailer / (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	40.3	To:	45.3
Total Depth:	~~45.3~~ 45.3	Pump Intake Setting:	~42.3'		
Depth to Water:	~~45.3~~ 1.75	Volumes to be Purged:	Low Flow		
Water Column:	43.55	Total Volume Purged:	~1.62		
Gallons/Foot:	0.16	Pump On:	1530	Off:	1610
Gallons in Well:	6.9				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1535	5	200ml	1000	2.16	368	6.63	67	16.06	36.4	2.51	Iron Dipos. in H2O
1540	10	200ml	1000	3.10	289	6.41	77	16.21	45.1	1.89	
1545	15	150ml	750	3.21	52.1	6.35	80	16.16	42.8	1.64	small Particles
1550	20	150ml	750	3.28	30.1	6.34	86	16.40	22.8	1.45	Particles
1555	25	↓	↓	3.30	17.2	6.37	86	16.51	12.6	1.54	Clearing
1600	30			3.31	6.66	6.40	85	16.40	6.93	1.38	↓
1605	35			3.31	7.31	6.43	83	16.35	1.5	1.30	
1610	40	↓	↓	3.31	7.27	6.45	82	16.31	-2.9	1.21	↓

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs / small Orange Particles
Odor:	NONE	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
VOC's	3x 40ml CG	HCL
6010 Metals	1 x 250ml PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	**Well ID:**	ATMW-4
Date:	2-17-10	Sampled By:	Ryan Kontos		
Sampling Time:	1720	Recorded By:	Ryan Kontos		
Weather:	Breezy ~	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R10222	Lamo He 2020/ R9151

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder Bailer Peristaltic
Casing Diameter:	2"	Screen Interval: From:	2.3	To:	12.3
Total Depth:	12.30	Pump Intake Setting:	~7.3		
Depth to Water:	2.50	Volumes to be Purged:	Low Flow		
Water Column:	9.80	Total Volume Purged:	~2.75		
Gallons/Foot:	0.16	Pump On:	1627	Off:	1722
Gallons in Well:	1.56				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1632	5	200ml	1000ml	2.56	49.1	5.96	188	16.51	52.7	2.14	
1637	10			2.56	41.1	5.96	181	16.83	109	1.77	
1642	15			2.57	30.0	5.95	176	17.03	176	1.50	
1647	20			2.57	28.1	5.90	169	17.21	21.3	1.27	
1652	25			2.57	23.4	5.86	161	17.37	-95.6	0.95	
1657	30			2.57	19.9	5.84	152	17.37	-94.3	0.96	
1702	35			2.57	15.1	5.83	148	17.39	-98.6	0.90	
1707	40			2.57	11.5	5.81	147	17.45	-99.2	0.94	
1712	45			2.57	8.99	5.79	145	17.53	-100.5	0.91	
1717	50			2.57	8.00	5.98	143	17.58	-101.1	0.95	
1722	55			2.57	9.15	5.77	140	17.61	-102.3	0.80	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTU's
Odor:	Slight	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOC's	3x 40ml CG	HCL
6010 metals	1x 250ml PL	HNO3

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF | Project No. GP08HAFS | Well ID: AF-55
Date: 2/10/10 | Sampled By: Robby Sheak
Sampling Time: 1240 | Recorded By: Robby Sheak
Weather: Sunny Windy 40° | Duplicate/QA/QC: Dup-1 (021010)

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material: PVC
Casing Diameter: 2
Total Depth: 34'
Depth to Water: 2.28'
Water Column: 31.72
Gallons/Foot:
Gallons in Well:

Purge Method: (circle one) Submersible, Centrifugal, Bladder, Bailer, (Peristaltic)
Screen Interval: From: 24' To: 34'
Pump Intake Setting: 29' bgs
Volumes to be Purged:
Total Volume Purged: 2.4
Pump On: 1145 Off: 1247

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml/)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1155	10	150	0.3 gal	2.46	18.34	6.42	207	19.94	19.7	0.78	
1200	15	150		2.47	26.5	6.41	210	20.14	15.7	0.50	
1205	20	150		2.48	56.1	6.41	212	20.44	10.1	0.37	
1215	30	150		2.49	32.3	6.36	204	20.37	3.8	0.35	
1220	35	150		2.49	23.6	6.35	207	20.55	-2.9	0.33	
1225	40	150		2.49	19.6	6.36	206	20.67	-5.0	0.32	
1230	45	150		2.49	16.8	6.36	208	20.83	-8.4	0.31	
1235	50	150		2.49	16.2	6.38	206	20.89	-8.9	0.32	
1240	55	150	2.4 gal	2.49	15.7	6.39	205	20.90	-9.4	0.30	

Observations During Sampling

Well Condition: OK
Color: Clear
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): C
Other (OVA, HNU,etc.):

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	6 - 40 ml VOAs	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF
Project No. GP08HAFS
Well ID: AF-23
Date: 2/10/10
Sampled By: Robby Sleak
Sampling Time: 1120
Recorded By: Robby Sleak
Weather: Sunny Windy 40°F
Duplicate/QA/QC: MS/MSD Taken : AF-23 (021010)

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material: PVC
Casing Diameter: RSA 3/4"
Total Depth: 13
Depth to Water: 2.95
Water Column: 10.05
Gallons/Foot: 0.02
Gallons in Well: 0.20

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 3 To: 13'
Pump Intake Setting: 8' btoc
Volumes to be Purged: Low Flow
Total Volume Purged: 2.3 gal
Pump On: 1042 Off: 1128

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1045	3	200	0	3.85	38.8	7.05	490	15.33	170.2	2.11	
1050	8	200		3.83	29.9	7.17	495	15.62	144.6	2.23	
1055	13	200		3.85	11.5	7.19	496	15.70	122.2	1.54	
1100	18	200		3.85	8.02	7.20	495	15.82	117.5	1.25	
1105	23	200		3.85	7.38	7.20	493	15.78	106.1	1.06	
1110	28	200		3.85	3.44	7.21	493	15.61	96.7	1.00	
1115	33	200		3.85	3.71	7.20	494	15.60	96.8	1.03	
1120	38	200	2.3 gal	3.85	3.81	7.20	494	15.54	97.5	1.04	
				DUP							

Observations During Sampling

Well Condition: OK
Color: Clear
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTUs
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab SHEALY ARCADIS	Preservative
VOC	6 - 40ml VOAs	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

Collected MS/MSD

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF - 17	Project No.	GP08HAFS	Well ID:	AF-68
Date:	2/10/10	Sampled By:	Robby Sheely		
Sampling Time:	1347	Recorded By:	Robby Sheely		
Weather:	Sunny Windy 40°	Duplicate/QA/QC:			

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2	Screen Interval: From:	34.5 To: 39.5
Total Depth:	39.5	Pump Intake Setting:	37'
Depth to Water:	3.04	Volumes to be Purged:	Low Flow
Water Column:	36.16	Total Volume Purged:	2.0 gal
Gallons/Foot:	0.16	Pump On:	1302 Off: 1351
Gallons in Well:	5.7		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (mL))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1306	4	160	0	3.11	0.41	6.79	143	20.39	-15.9	1.09	
1322	20	150		3.11	0.15	6.82	143	20.18	-51.8	0.49	
1327	25	150		3.11	0.19	6.79	141	20.24	-49.2	0.37	
1337	35	150		3.11	0.05	6.79	137	20.39	-37.8	0.31	
1342	40	150		3.11	0.01	6.79	138	20.38	-39.2	0.29	
1347	45	150	2.0	3.11	0.03	6.77	136	20.32	-41.8	0.31	
			RG	RG							

Observations During Sampling

Well Condition:	OK	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3-40mL VOA	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF -17 | Project No. GP08HAFS | Well ID: AF-35
Date: 2/11/10 | Sampled By: Robby Sheely
Sampling Time: 0940 | Recorded By: Robby Sheely
Weather: Partly Cloudy 40° | Duplicate/QA/QC:

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material: PVC
Casing Diameter: 3/4"
Total Depth: 10.7
Depth to Water: Artesian
Water Column:
Gallons/Foot:
Gallons in Well:

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 1.2 To: 10.7 bgs
Pump Intake Setting: 5.7' bgs
Volumes to be Purged:
Total Volume Purged: 2.4 gal
Pump On: 0845 Off: 0945

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0849	4	140	0	0.91	21.6	5.25	461	9.32	89.7	3.95	
0905	20	150		1.61	12.5	5.42	521	9.30	-24.1	1.17	
0910	25	150		1.63	11.2	5.47	521	9.56	-45.1	0.93	
0915	30	150		1.64	9.8	5.56	504	9.96	-40.8	0.89	
0925	40	150		1.64	9.5	5.60	512	9.98	-63.1	0.88	
0930	45	150		1.64	8.9	5.60	520	10.00	-64.5	0.80	
0935	50	150		1.64	9.2	5.61	521	9.98	-65.8	0.77	
0940	55	150		1.64	9.5	5.61	523	9.92	-67.4	0.76	

Observations During Sampling

Well Condition: OK
Color: Clear
Odor: None

Purge Water Disposal:
Turbidity(qualitative):
Other (OVA, HNU,etc.):

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3 - 40 ml VOA	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS **Well ID:** MW-15S
Date: 2-19-10 Sampled By: Ryan Kontos
Sampling Time: 0922 Recorded By: Ryan Kontos
Weather: Clear Cool ~35° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	556 YSI R10222	Lamotte 2020/R9152

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 11.65
Depth to Water: 2.31
Water Column: 9.34
Gallons/Foot: 0.16
Gallons in Well: 1.49

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 2 To: ~~8.34~~ RK 11.65
Pump Intake Setting: ~7'
Volumes to be Purged: Low Flow
Total Volume Purged:
Pump On: 0830 Off: 0920

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
0835	~~0835~~	200ml	1000ml	2.36	65.1	4.38	228	14.51	1.56	262.3
0840	10	↓	↓	2.36	56.0	4.78	201	15.28	1.25	194.5
0845	15			2.36	39.9	4.89	197	16.00	0.71	169.3
0850	20			2.36	31.7	5.11	184	16.26	0.59	140.1
0855	25			2.36	25.4	5.21	170	16.60	0.41	65.4
0900	30			2.36	19.2	5.39	161	16.77	0.35	39.8
0905	35			2.36	11.1	5.45	155	16.82	0.34	26.5
0910	40			2.36	9.03	5.50	150	16.89	0.33	20.1
0915	45			2.36	7.24	5.53	147	16.93	0.28	10.5
0920	50	↓	↓	2.36	6.69	5.56	142	16.98	0.25	5.1
~~0920~~										

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: Slight

Purge Water Disposal: Drum
Turbidity(qualitative): <10
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
8260	3x 40mL CG	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF - 17	Project No.	GP08HAFS	**Well ID:**	AF-26
Date:	2/11/10	Sampled By:	Robby Sheely		
Sampling Time:	1049	Recorded By:	Robby Sheely		
Weather:	Partly Cloudy 40°	Duplicate/QA/QC:			

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 12'
Depth to Water: Artesian
Water Column:
Gallons/Foot:
Gallons in Well:

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: ~~10~~ 2' To: 12' bgs
Pump Intake Setting: 7' bgs
Volumes to be Purged:
Total Volume Purged:
Pump On: 1012 Off: 1052

Field Parameter Measurements During Purging Added 3.38' riser to stop flow

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1019	7	140	0.1gal	1.69	0.62	6.98	200	16.69	-68.0	0.63	
1029	17	150		1.69	0.33	6.98	199	16.57	-67.8	0.44	
1034	22	150		1.69	0.35	6.95	199	16.52	-68.1	0.47	
1039	27	150		1.70	0.16	6.94	199	16.48	-67.7	0.33	
1044	32	150		1.70	0.21	6.94	199	16.45	-62.5	0.32	
1049	37	150		1.70	0.04	6.94	199	16.32	-63.7	0.31	
			7gal Drum								

Observations During Sampling

Well Condition: OK
Color: Clear
Odor: None

Purge Water Disposal: DRUM
Turbidity(qualitative): CLOUDY
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3 - 40ml VOA	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF - 17 | Project No. GP08HAFS | Well ID: MW-2D
Date: 2/11/10 | Sampled By: Robby Sleath
Sampling Time: 1652 | Recorded By: Robby Sleath
Weather: Cloudy 43° | Duplicate/QA/QC:

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07E100306

Purging Information

Casing Material: PVC
Casing Diameter: 4
Total Depth: 29.9
Depth to Water: 4.43
Water Column: 25.47
Gallons/Foot: 0.04
Gallons in Well: 1.02

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 19.9 To: 29.9
Pump Intake Setting: 24.9
Volumes to be Purged: Low Flow
Total Volume Purged: 2.4 gal
Pump On: 1604 Off: 1653

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
1607	3	160	0	4.58	147	5.07	95	20.33	1.43	96.5
1612	8	160		4.61	82.9	5.29	95	20.92	0.87	66.5
1622	18	160		4.60	108.5	5.30	95	21.05	0.52	47.4
1627	23	160		4.60	126	5.29	96	21.11	0.37	45.8
1632	28	180		4.60	101.1	5.32	96	21.26	0.31	40.9
1637	33	160		4.60	92.9	5.30	96	21.29	0.27	39.3
1642	38	160		4.60	92.1	5.29	96	21.29	0.26	40.8
1647	43	160		4.60	94.6	5.29	97	21.26	0.25	39.2
1652	48	160	2.4	4.60	89.1	5.27	96	21.27	0.26	41.3

Observations During Sampling

Well Condition: OK
Color: Cloudy White
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): 89.1
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3 - 40 ml VOA	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF - 17	Project No.	GP08HAFS	Well ID:	MW-35
Date:	2/11/10	Sampled By:	Robby Sheely		
Sampling Time:	1548	Recorded By:	Robby Sheely		
Weather:	Overcast 45°	Duplicate/QA/QC:			

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	6.7 To: 11.7 bgs
Total Depth:	11.7	Pump Intake Setting:	9.2 bgs
Depth to Water:	4.96	Volumes to be Purged:	~~Low Flow Rate~~ Purged 5 Well Volumes
Water Column:	6.74	Total Volume Purged:	1.4 gal
Gallons/Foot:	0.04	Pump On:	1514 Off: 1546
Gallons in Well:	0.26		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. O2 Oxygen	Comments ORP
1518	4	200	0	4.99	63.3	5.67	82	17.92	1.90	144.8
1528	14	200		4.99	20.1	6.01	85	18.42	1.42	129.2
1533	19	200		4.99	9.10	6.02	87	18.42	1.18	97.9
1538	24	200		4.99	5.47	5.97	88	18.53	1.09	88.3
1543	29	200		4.99	3.37	5.99	88	18.57	0.99	78.4
1548	34	200	1.4	4.99	3.02	5.99	88	18.61	0.96	73.1

Observations During Sampling

Well Condition:	Ok	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTU's
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3-40ml VOA	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF - 17	Project No.	GP08HAFS	Well ID:	MW-7D
Date:	2/11/10	Sampled By:	Robby Sheely		
Sampling Time:	1423	Recorded By:	Robby Sheely		
Weather:	Partly Cloud 45°	Duplicate/QA/QC:			

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F100306

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	24.6 To: 34.6 ' bgs
Total Depth:	29.6	Pump Intake Setting:	29.6' bgs
Depth to Water:	4.46	Volumes to be Purged:	0 Low Flow
Water Column:	25.14	Total Volume Purged:	1.8 gallons
Gallons/Foot:	0.04	Pump On:	1348 Off: 1425
Gallons in Well:	1.00		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	Comments ORP
1353	5	200	0	4.94	16.6	5.13	39	19.17	1.14	160
1358	10	160		4.85	14.2	5.26	40	19.01	1.13	136.6
1403	15	160		4.86	10.47	5.22	40	18.85	0.74	126.1
1408	20	160		4.86	7.29	5.21	42	18.86	0.77	117.3
1413	25	160		4.85	5.34	5.21	42	18.73	1.01	110.0
1418	30	160		4.85	4.43	5.21	41	18.88	0.99	106.8
1423	35	160	1.8	4.85	3.58	5.22	41	18.93	0.97	102.1
		Purge Complete								

Observations During Sampling

Well Condition:	OK	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3 - 40ml VOA	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF - 17 | Project No. GP08HAFS | Well ID: MW-12D
Date: 2/11/10 | Sampled By: Robby Sheely
Sampling Time: 1330 | Recorded By: Robby Sheely
Weather: Partly Cloudy 45° | Duplicate/QA/QC:

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		07F/003016

Purging Information

Casing Material: PVC
Casing Diameter: 1"
Total Depth: 34.3
Depth to Water: 5.93
Water Column: 28.37
Gallons/Foot: 0.04
Gallons in Well: 1.13

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 24.3 To: 34.3 bgs
Pump Intake Setting: 29.3' bgs
Volumes to be Purged: Low Flow
Total Volume Purged: 2.0 gal
Pump On: 1249 Off: 1333

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1255	6	150	0.1	6.30	9.95	5.92	54	21.62	11.8	151.2
1305	16	150		6.29	8.81	5.88	54	22.34	0.52	112.6
1310	21	150		6.29	5.26	5.84	56	22.47	0.41	101.2
1315	26	150		6.29	3.86	5.85	56	22.59	0.44	99.4
1320	31	150		6.29	2.84	5.82	56	22.67	0.34	104.0
1325	36	150		6.29	2.53	5.79	56	22.71	0.32	100.1
1330	41	150	2.0	6.29	1.98	5.76	57	22.82	0.31	98.6
		RB	RB							

Observations During Sampling

Well Condition: OK
Color: Clear
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTUs
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab SHEALY ARCADIS	Preservative
VOC	3-40ml VOA	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	**Well ID:**	MW-2S
Date:	2-11-10	Sampled By:	Ryan Kontos		
Sampling Time:	1646	Recorded By:	Ryan Kontos		
Weather:	Clear Cool ~45°	Duplicate/QA/QC:	~~MW-40~~ MS/MSD		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R8740	Lamotte 2020/R8767

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	4.3 To: 14.3
Total Depth:	14.3	Pump Intake Setting:	9.3'
Depth to Water:	4.33	Volumes to be Purged:	Low Flow
Water Column:	9.97	Total Volume Purged:	~1.75
Gallons/Foot:	0.04	Pump On:	1605 Off: 1640
Gallons in Well:	0.39		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C) or °F)	Diss. Oxygen	~~Comments~~ ORP
1610	5	200ml	1000ml	4.38	25.9	6.41	104	17.57	2.02	109.2
1615	10	↓	↓	4.38	17.3	6.45	104	17.58	1.53	107.0
1620	15			4.38	14.0	6.47	105	17.53	1.54	102.6
1625	20			4.38	9.72	6.47	106	17.61	1.68	101.0
1630	25			4.38	8.80	6.47	107	17.66	1.65	100.6
1635	30			4.38	6.94	6.48	107	17.68	1.69	100.2
1640	35	↓	↓	4.38	5.26	6.48	107	17.70	1.75	100.0

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	910 NTUs
Odor:	NONE	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description: From Lab _____ ARCADIS _____	Preservative
VOC	9x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	MW-3D
Date:	2-11-10	Sampled By:	Ryan Kontos		
Sampling Time:	1552	Recorded By:	Ryan Kontos		
Weather:	Clear Cool ~45°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/R8740	Lamotte 7020/R8767

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	19.59 To: 29.58
Total Depth:	29.58	Pump Intake Setting:	25'
Depth to Water:	5.05	Volumes to be Purged:	Low Flow
Water Column:	24.53	Total Volume Purged:	~1.3
Gallons/Foot:	0.04	Pump On:	1515 Off: 1550
Gallons in Well:	0.98		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1520	5	150ml	750ml	5.20	7.56	5.69	74	19.00	0.54	66.2
1525	10	↓	↓	5.20	5.09	5.70	75	19.92	0.28	69.3
1530	15			5.20	3.18	5.70	75	20.43	0.37	61.5
1535	20			5.20	3.01	5.69	74	20.69	0.30	58.1
1540	25			5.20	3.26	5.68	74	20.87	0.19	60.3
1545	30			5.20	2.88	5.68	73	21.00	0.17	51.2
1550	35	↓	↓	5.20	2.76	5.67	73	21.03	0.15	47.0

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	NONE	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
VOC	3x40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** AF-58
Date: 2-11-10 | Sampled By: Ryan Kontos
Sampling Time: 0937 | Recorded By: Ryan Kontos
Weather: Cold ~35° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 R8740	Lamotte 2020/ R8767

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 13.0
Depth to Water: 4.94
Water Column: 8.06
Gallons/Foot: 0.16
Gallons in Well: 1.28

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 3 To: 13
Pump Intake Setting: 8'
Volumes to be Purged: Low Flow
Total Volume Purged: ~2.5 gal
Pump On: 0845 Off: 0935

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (mL))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0850	5	200ml	1000	5.46	46.7	5.85	263	11.44	98.5	0.46	
0855	10	↓	↓	5.46	42.1	5.85	245	12.00	71.1	0.95	
0900	15			5.49	33.8	5.85	237	12.02	44.1	0.72	
0905	20			5.50	28.6	5.83	231	11.82	30.0	0.73	
0910	25			5.50	23.2	5.83	232	12.07	27.1	0.61	
0915	30			5.50	18.4	5.82	233	12.17	24.9	0.50	
0920	35			5.50	12.1	5.82	229	12.29	24.5	0.37	
0925	40			5.50	8.11	5.82	229	12.35	24.1	0.35	
0930	45			5.50	9.03	5.83	229	12.41	24.2	0.29	
0935	50	↓	↓	5.50	8.81	5.83	229	12.45	24.0	0.25	

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: NONE

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTUs
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab	ARCADIS	Preservative
~~VOCs~~ VOCs	3x 40ml	CG	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS **Well ID:** AF-25
Date: 2-11-10 Sampled By: Ryan Kontos
Sampling Time: 1027 Recorded By: Ryan Kontos
Weather: Clear Cold ~35° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/R8740	Lamotte 2020/R8767

Purging Information

Casing Material: PVC
Casing Diameter: 3/4
Total Depth: 10.10
Depth to Water: 0.10
Water Column: 10.00
Gallons/Foot: 0.02
Gallons in Well: 2" ~~0.60~~ 0.20

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 0.1 To: 10.1
Pump Intake Setting: Middle of screen 5'
Volumes to be Purged: Low Flow
Total Volume Purged: 1.75 gal
Pump On: 1000 Off: 1025

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments	
1005	5	200ml	1000	0.28	349	6.09	283	13.65	13.6	0.43		1 vol
1010	10	↓	↓	0.29	351	6.19	301	13.57	1.6	0.26		2 vol
1015	15			0.29	303	6.24	309	13.63	-23.1	0.19		3 vol
1020	20			0.29	321	6.36	317	13.50	-27.2	0.16		4 vol
1025	25	↓	↓	0.29	333	6.39	327	13.43	-29.1	0.15		5 vol

Observations During Sampling

Well Condition: Good
Color: Cloudy
Odor: Slight

Purge Water Disposal: Drum
Turbidity(qualitative): 333 at sample collection
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab ____ ARCADIS ____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS **Well ID:** MW-12S

Date: 2-11-10 Sampled By: Ryan Kontos

Sampling Time: 1321 Recorded By: Ryan Kontos

Weather: clear ~45° Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R8740	Lamotte 2020 / R8767

Purging Information

Casing Material: PVC

Casing Diameter: 1"

Total Depth: 17.6

Depth to Water: 5.80

Water Column: 12.52

Gallons/Foot: 0.04

Gallons in Well: 0.50

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 7.6 To: 17.6

Pump Intake Setting: 12.6

Volumes to be Purged: Low Flow

Total Volume Purged: ~1.5 gal

Pump On: 1249 Off: 1319

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1254	5	200ml	1000	5.87	5.97	5.93	94	19.03	1.72	60.3
1259	10	↓	↓	5.87	8.11	5.92	92	19.89	1.63	63.7
1304	15			5.87	6.02	5.92	92	20.22	1.62	70.4
1309	20			5.87	3.04	5.91	92	20.62	1.31	77.7
1314	25			5.87	2.96	5.92	92	20.40	1.31	79.3
1319	30	↓	↓	5.87	2.25	5.90	91	20.42	1.20	82.4

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: NONE

Purge Water Disposal: Drum

Turbidity(qualitative): <10 NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	MW-07S
Date:	2-11-10	Sampled By:	Ryan Kontos		
Sampling Time:	1437	Recorded By:	Ryan Kontos		
Weather:	Clear ~45°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R8740	Lamotte 2020 / R8767

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	1"	Screen Interval: From:	7.89 To: 17.89
Total Depth:	17.89	Pump Intake Setting:	13'
Depth to Water:	4.31	Volumes to be Purged:	Low Flow
Water Column:	13.58	Total Volume Purged:	~1.68 gal
Gallons/Foot:	0.04	Pump On:	1350 Off: 1435
Gallons in Well:	0.54		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	Diss. Oxygen	~~Comments~~ ORP
1355	5	150ml	750ml 1000 PK	4.36	48.6	6.36	71	17.15	1.73	79.4
1400	10	↓	↓	4.36	30.9	6.32	69	16.92	1.07	74.8
1405	15			4.36	25.0	6.32	67	16.89	1.04	70.5
1410	20			4.36	20.2	6.29	66	16.90	1.08	70.9
1415	25			4.36	13.7	6.26	65	16.92	1.02	71.5
1420	30			4.36	13.9	6.27	64	17.00	1.15	71.6
1425	35			4.36	9.39	6.27	64	17.06	1.20	72.2
1430	40			4.36	8.44	6.26	64	17.14	1.19	73.6
1435	45	↓	↓	4.36	8.89	6.28	64	17.18	1.15	71.7

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTUs
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
8 VOC	3x40ml Clear	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	AF-56
Date:	2/10/10	Sampled By:	R.K, R.S.		
Sampling Time:	0859	Recorded By:	R.K		
Weather:	Clear Breezy ~30°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	Y61556 R8748	Lamotte 2020 R8767

Purging Information

Casing Material:	PVC	Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)	
Casing Diameter:	2"	Screen Interval: From:	19.9 To: 29.9
Total Depth:	29.9	Pump Intake Setting:	25'
Depth to Water:	1.86	Volumes to be Purged:	Low Flow
Water Column:	27.98	Total Volume Purged:	~1.5 gal
Gallons/Foot:	0.16	Pump On:	0827 Off: 0857
Gallons in Well:	4.47		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0832	5	200ml	1000ml	2.15	8.89	5.29	321	18.76	110.1	1.77	
0837	10	↓	↓	2.15	6.83	5.32	317	19.56	82.4	0.91	
0842	15			2.15	7.36	5.31	315	20.77	69.1	0.78	
0847	20			2.15	5.21	5.31	315	20.81	65.3	0.61	
0852	25			2.15	6.89	5.30	314	20.87	60.5	0.42	
0857	30	↓	↓	2.15	5.02	5.29	315	20.95	56.9	0.34	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	< 10 NTU's
Odor:	None	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab _____ ARCADIS _____	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** AF-69
Date: 2/10/10 | Sampled By: RK, R.S.
Sampling Time: 0955 | Recorded By: RK
Weather: Breezy ~ 35° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 R8740	LaMotte 2020 R8767

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: ~~RK 39.77~~ 45.0
Depth to Water: 3.77
Water Column: 41.23
Gallons/Foot: 0.16
Gallons in Well: 6.59

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 40 To: 45
Pump Intake Setting: 42.5'
Volumes to be Purged: Low Flow
Total Volume Purged: 1.75
Pump On: 0918 Off: 0953

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or (ml))	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0923	5	200ml	1000	3.79	41.1	6.04	146	21.67	53.2	1.48	
0928	10	↓	↓	3.79	20.7	6.07	145	21.61	37.5	0.68	
0933	15			3.79	17.7	6.04	143	21.64	31.2	0.43	
0938	20			3.79	13.2	6.02	143	21.92	26.5	0.62	
0943	25			3.79	9.56	6.00	143	22.01	24.3	0.29	
0948	30			3.79	7.23	6.01	143	22.15	21.3	0.27	
0953	35	↓	↓	3.79	7.96	6.00	143	22.22	18.9	0.23	

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: Slight

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTU's
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3x40ml CG	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	AF-14
Date:	2-10-10	Sampled By:	RKan Kontos		
Sampling Time:	1043	Recorded By:	RKan Kontos		
Weather:	Breezy ~35°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R8740	Lamotte 2020 / R8767

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder / Bailer / (Peristaltic)
Casing Diameter:	3/4	Screen Interval: From:	1.4	To:	11.4
Total Depth:	11.4	Pump Intake Setting:	6.4'		
Depth to Water:	1.60	Volumes to be Purged:	Low Flow		
Water Column:	9.80	Total Volume Purged:	~1.5 gal		
Gallons/Foot:	0.06	Pump On:	1011	Off:	1041
Gallons in Well:	0.58				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1016	5	200ml	1000	2.14	14.9	5.60	173	15.63	-19.4	0.36	
1021	10	↓	↓	2.17	10.02	5.57	174	15.74	-30.1	0.23	
1026	15			2.19	10.67	5.56	173	15.86	-38.1	0.31	
1031	20			2.20	9.88	5.55	175	15.70	-50.0	0.17	
1036	25			2.20	9.01	5.55	175	15.67	-61.0	0.14	
1041	30	↓	↓	2.20	8.88	5.54	176	15.64	-66.1	0.13	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	<10 NTU's
Odor:	NONE	Other (OVA, HNU,etc.):	N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
8 VOC	3x40ml VG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF HAA-17	Project No.	GP08HAFS	**Well ID:**	AF-13
Date:	2-10-10	Sampled By:	Ryan Kontos		
Sampling Time:	1210	Recorded By:	Ryan Kontos		
Weather:	Breezy ~35°	Duplicate/QA/QC:	N/A		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556/ R8740	Lamotte 2020/ R8767

Purging Information

Casing Material: PVC
Casing Diameter: 3/4"
Total Depth: 12.5
Depth to Water: 1.70
Water Column: 10.8
Gallons/Foot: 0.06
Gallons in Well: 0.64

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 2.5 To: 12.5
Pump Intake Setting: 7.5'
Volumes to be Purged: Low Flow
Total Volume Purged: 3.75
Pump On: 1053 Off: 1208

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments	
1058	5	200ml	1000	1.75	1068	5.26	143	16.14	10.6	0.28		
1103	10	↓	↓	1.77	811	5.27	143	16.09	5.1	0.25		1 vol
1108	15			1.77	685	5.28	142	16.07	0.4	0.29		
1113	20			1.78	681	5.28	142	16.06	-1.9	0.23		
1118	25			1.78	689	5.28	142	16.09	-3.4	0.22		
1123	30			1.78	695	5.28	142	16.12	-8.3	0.19		2 vol
1128	35			1.78	669	5.27	142	16.09	-9.5	0.14		
1133	40			1.78	642	5.28	141	16.08	-10.1	0.15		
1138	45			1.78	633	5.28	141	16.06	-12.6	0.11		3 vol
1143	50			1.78	624	5.28	141	16.05	-18.9	0.07		
1148	55			1.78	601	5.28	141	16.10	-20.1	0.10		
1153	60			1.78	431	5.28	141	16.14	-21.8	0.11		4 vol
1158	65			1.78	393	5.28	141	16.19	-25.6	0.08		
1203	70			1.78	354	5.28	141	16.23	-27.7	0.07		
1208	75	↓	↓	1.78	346	5.29	141	16.27	-29.1	0.07	5 vol	5 vol

Observations During Sampling

Well Condition: Riser Good
Color: Cloudy
Odor: Slight

Purge Water Disposal: Drum
Turbidity(qualitative): 346 NTU's After 5 vol
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3x40ml G/G	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 Project No. GP08HAFS **Well ID:** AF-54

Date: 2-10-10 Sampled By: Ryan Kontos

Sampling Time: 1302 Recorded By: Ryan Kontos

Weather: Breezy ~45 Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R8740	Camotte 2020 / R8767

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 42.4

Depth to Water: 1.79

Water Column: 40.61

Gallons/Foot: 0.16

Gallons in Well: 6.49

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 32.4 To: 42.4

Pump Intake Setting: 37.4'

Volumes to be Purged: Low Flow

Total Volume Purged: 1.75

Pump On: 1225 Off: 1300

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1230	5	200ml	1000	1.80	18.0	5.90	344	19.75	31.6	1.62	
1235	10	↓	↓	1.80	11.2	5.71	390	20.31	33.3	1.01	
1240	15			1.80	7.37	5.58	425	20.65	34.6	0.43	
1245	20			1.80	5.99	5.55	459	20.73	30.1	0.40	
1250	25			1.80	4.86	5.51	456	20.88	28.3	0.38	
1255	30			1.80	4.27	5.53	450	20.95	24.9	0.27	
1300	35	↓	↓	1.80	4.99	5.53	447	20.98	22.5	0.23	

Observations During Sampling

Well Condition: Good

Color: Clear

Odor: Slight

Purge Water Disposal: Drum

Turbidity(qualitative): <10 NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3x40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** AF-57

Date: 2-10-10 | Sampled By: Ryan Kontos

Sampling Time: 1442 | Recorded By: Ryan Kontos

Weather: Breezy ~45° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 R8740	Lamotte 2020/ R8767

Purging Information

Casing Material: PVC

Casing Diameter: 2"

Total Depth: 62.8

Depth to Water: 1.22

Water Column: 61.58

Gallons/Foot: 0.16

Gallons in Well: 9.85

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)

Screen Interval: From: 57.8 To: 62.8

Pump Intake Setting: 60'

Volumes to be Purged: Low Flow

Total Volume Purged: 1.75

Pump On: 1405 Off: 1440

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1410	5	200ml	1000	1.50	8.31	7.25	258	15.17	46.1	2.30	
1415	10	↓	↓	1.50	4.15	7.24	260	15.31	21.1	1.01	
1420	15			1.50	3.81	7.23	262	15.52	-2.5	0.60	
1425	20			1.50	3.15	7.23	262	15.60	-22.1	0.40	
1430	25			1.50	3.00	7.22	263	15.66	-40.4	0.35	
1435	30			1.50	2.83	7.22	263	15.72	-50.1	0.27	
1440	35	↓	↓	1.50	3.03	7.22	264	15.78	-56.6	0.25	

Observations During Sampling

Well Condition: Good

Color: BK NONE Clear

Odor: NONE

Purge Water Disposal: Drum

Turbidity(qualitative): < 10 NTUs

Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description: From Lab ____ ARCADIS ____	Preservative
VOC	3 x 40ml CG	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF HAA-17 | Project No. GP08HAFS | **Well ID:** AF-41
Date: 2-10-10 | Sampled By: Ryan Kontos
Sampling Time: 1552 | Recorded By: Ryan Kontos
Weather: Breezy ~50° | Duplicate/QA/QC: N/A

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:	YSI 556 / R8740	LaMotte 2020 R8767

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 33.0
Depth to Water: 3.00
Water Column: 30.0
Gallons/Foot: 0.16
Gallons in Well: 4.8

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 28.5 To: 33.0
Pump Intake Setting: 30'
Volumes to be Purged: Low Flow
Total Volume Purged: 1.75
Pump On: 1515 Off: 1550

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1520	5	200ml	1000ml	3.25	9.93	6.07	164	19.75	21.1	1.08	
1525	10	↓	↓	3.26	5.24	6.01	165	19.96	17.7	0.60	
1530	15			3.26	4.91	6.01	164	20.21	13.2	0.54	
1535	20			3.27	4.30	6.00	1666	20.30	8.4	0.76	
1540	25			3.27	4.10	6.00	167	20.36	6.9	0.56	
1545	30			3.27	3.56	5.99	167	20.41	4.1	0.45	
1550	35			3.27	3.04	5.99	168	20.46	2.9	0.41	

Observations During Sampling

Well Condition: Good
Color: Clear
Odor: NONE

Purge Water Disposal: Drum
Turbidity(qualitative): <10 NTUs
Other (OVA, HNU,etc.): N/A

Constituents Sampled	Container Description From Lab / ARCADIS	Preservative
VOC	3x 40ml CG	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	HT7-MW-17S
Date:	5/25/10	Sampled By:	Erica Maddox		
Sampling Time:	0912	Recorded By:	Erica Maddox		
Weather:	Partly Cloudy, 80's	Duplicate/QA/QC:	NONE		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:	———	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder / Bailer / (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	8	To:	18
Total Depth:	18	Pump Intake Setting:	Mid screen ≈ 13		
Depth to Water:	6.44	Volumes to be Purged:	Low Flow		
Water Column:	11.56	Total Volume Purged:	1.5		
Gallons/Foot:	0.16	Pump On:	0835	Off:	0912
Gallons in Well:	1.85				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0840	5	180	0	6.46	2.12	6.15	255	22.06	31.7	5.01	
0845	10	180	0.25	6.46	2.38	5.90	228	21.32	35.4	1.80	
0850	15	180	0.5	6.48	1.58	5.87	221	21.15	36.4	1.43	
0855	20	180	0.75	6.48	1.74	5.88	222	21.08	37.6	1.26	
0900	25	180	1.0	6.48	1.60	5.90	217	21.09	38.7	1.16	
0905	30	180	1.25	6.48	1.66	5.89	213	21.04	40.6	1.14	
0910	35	180	1.5	6.48	1.53	5.90	210	21.08	41.1	1.12	
				Erica Maddox							
								5/25/10			

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	———
Odor:	None	Other (OVA, HNU,etc.):	———

Constituents Sampled	Container Description: From Lab ✓ ARCADIS ———	Preservative
VOCs (8260)	40 mL VOA vial	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF
Project No. GP08HAFS
Well ID: M-17-MW-17D
Date: 5/25/10
Sampled By: Erica Maddox
Sampling Time:
Recorded By: Erica Maddox
Weather: Partly Cloudy, 80's
Duplicate/QA/QC: NONE

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:		YSI 556 (R8526)

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth: 42
Depth to Water: 8.30
Water Column: 33.7
Gallons/Foot: 0.16
Gallons in Well: 5.40

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer (Peristaltic)
Screen Interval: From: 32 To: 42
Pump Intake Setting: Midscreen ≈ 37
Volumes to be Purged: Low flow
Total Volume Purged: 6.5
Pump On: 0925 Off: 1130

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
0930	5	180	0	8.70	82.8	6.42	260	22.05	7.2	1.63	
0935	10	180	0.25	8.75	80.1	6.20	258	21.97	7.5	0.74	
0940	15	180	0.5	8.76	79.3	6.04	234	22.00	11.5	0.45	
0945	20	180	0.75	8.76	77.5	6.00	225	22.03	11.8	0.39	
0950	25	180	1.0	8.76	73.7	5.98	220	22.07	3.9	0.39	
0955	30	180	1.25	8.76	68.4	5.91	210	22.03	8.0	0.36	
1000	35	180	1.5	8.76	51.1	5.90	206	22.20	8.5	0.74	
1005	40	180	1.75	8.76	49.8	5.89	204	22.17	8.9	0.68	
1010	45	180	2.0	8.76	49.0	5.89	203	22.16	9.5	0.89	
1015	50	180	2.25	8.76	51.7	5.88	202	22.12	10.0	0.69	
1020	55	180	2.5	8.76	40.5	5.87	200	22.09	11.5	0.79	
1025	60	180	3.0	8.76	42.3	5.85	199	22.06	12.0	0.80	
1030	65	180	3.25	8.74	39.2	5.84	198	22.07	12.0	0.80	
1035	70	180	3.5	8.75	37.1	5.83	196	22.12	12.4	0.78	
1040	75	180	3.75	8.75	35.8	5.83	195	22.08	12.8	0.82	

Observations During Sampling

Well Condition: Good
Color: Clear (Cloudy)
Odor: None

Purge Water Disposal: Drum
Turbidity(qualitative): Cloudy
Other (OVA, HNU,etc.):

Constituents Sampled	Container Description From Lab ✓ ARCADIS	Preservative
VOCs (8260)	40 mL VOA vial	HCl

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	H17-MW-17D
Date:	9/15/10	Sampled By:	Erica Maddox		
Sampling Time:	1135	Recorded By:	Erica Maddox		
Weather:	Blondy, 80's	Duplicate/QA/QC:	None		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:	NA	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	32 To: 42
Total Depth:	42	Pump Intake Setting:	Midscreen 37
Depth to Water:	~~8.38~~ 8.30	Volumes to be Purged:	Low Flow
Water Column:	~~33.62~~ 33.7	Total Volume Purged:	6.5
Gallons/Foot:	0.16	Pump On:	0925 Off: 1130
Gallons in Well:	5.39		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1045	80	180	4.0	8.50	22.7	5.88	194	22.39	16.1	0.59	
1050	85	180	4.25	8.50	20.8	5.89	191	22.38	17.6	0.67	
1055	90	180	4.5	8.50	19.1	5.87	192	22.35	18.2	0.67	
1100	95	180	4.75	8.50	19.5	5.84	188	22.79	19.0	0.66	
1105	100	180	5.0	8.50	6.5	5.84	187	22.80	19.9	0.63	
1110	105	180	5.25	8.50	5.2	5.88	187	22.82	21.0	0.61	
1115	110	180	5.5	8.50	5.9	5.89	188	22.85	21.2	0.55	
1120	115	180	6.0	8.50	4.7	5.89	188	22.89	21.5	0.54	
1125	120	180	6.25	8.50	4.3	5.89	188	22.96	22.0	0.55	
1130	125	180	6.50	8.50	3.1	5.89	188	23.01	21.8	0.54	

Maddox

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	clear	Turbidity(qualitative):	—
Odor:	None	Other (OVA, HNU,etc.):	—

Constituents Sampled	Container Description (From Lab ✓ ARCADIS ___)	Preservative
VOCs (8260B)	40 mL VOA	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	HA-MW-18D
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1947	Recorded By:	Erica Maddox		
Weather:	Sunny, 90's (windy)	Duplicate/QA/QC:	None.		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder	Bailer	(Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	32	To:	42		
Total Depth:	42	Pump Intake Setting:	Midscreen 37				
Depth to Water:	5.77	Volumes to be Purged:	Low Flow				
Water Column:	36.23	Total Volume Purged:					
Gallons/Foot:	0.16	Pump On:	1850	Off:	1945		
Gallons in Well:	5.80						

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1855	5	180	0	5.89	33.0	6.16	85	22.68	37.1	4.09	
1900	10	180	0.25	5.90	32.5	6.00	85	22.67	39.1	0.99	
1905	15	180	0.5	5.90	20.1	6.00	85	22.66	38.7	0.58	
1910	20	180	1.0	5.90	15.11	5.99	85	22.61	39.1	0.43	
1915	25	180	1.25	5.90	10.35	6.05	85	23.13	38.3	0.36	
1920	30	180	1.5	5.90	5.51	6.04	85	23.14	39.4	0.39	
1925	35	180	1.75	5.89	5.30	6.05	85	23.16	39.7	0.34	
1930	40	180	2.0	5.89	3.27	6.06	85	23.19	39.9	0.20	
1935	45	180	2.25	5.89	2.19	6.06	85	23.20	39.1	0.21	
1940	50	180	2.5	5.89	2.10	6.06	85	23.19	38.9	0.23	
1945	55	180	2.75	5.89	2.30	6.06	85	23.17	39.3	0.25	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	Cloudy
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab ✓ ARCADIS	Preservative
VOCs (8260)	40 mL VOA Vial	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	HT-MW-19S
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1827	Recorded By:	Erica Maddox		
Weather:	Sunny, 90's	Duplicate/QA/QC:	None		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:		YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	5 To: 15
Total Depth:	15	Pump Intake Setting:	Midscreen 10
Depth to Water:	5.40	Volumes to be Purged:	Low Flow
Water Column:	9.6	Total Volume Purged:	1.25
Gallons/Foot:	0.16	Pump On:	1755 Off: 1825
Gallons in Well:	1.54		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1800	5	180	0	5.60	9.15	5.80	73	21.07	43.3	5.48	
1805	10	180	0.25	5.60	7.25	5.64	72	20.93	45.2	2.85	
1810	15	180	.50	5.62	6.37	5.58	71	20.76	45.3	0.79	
1815	20	180	.75	5.63	6.13	5.57	72	20.70	45.3	0.60	
1820	25	180	1.0	5.63	5.35	5.55	72	20.71	45.4	0.47	
1825	30	180	1.25	5.63	5.13	5.53	72	20.73	45.3	0.41	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab ✓ ARCADIS	Preservative
40mL VOA vials	VOCs (8260)	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	H17-MW-20D
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1735	Recorded By:	Erica Maddox		
Weather:	Sunny, 80's	Duplicate/QA/QC:	None		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:	—	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder	Bailer	Peristaltic
Casing Diameter:	2"	Screen Interval: From:	18	To:	28		
Total Depth:	28	Pump Intake Setting:	Midscreen ≈ 23				
Depth to Water:	2.39	Volumes to be Purged:	Low Flow				
Water Column:	25.61	Total Volume Purged:	1.25				
Gallons/Foot:	0.16	Pump On:	1700	Off:	1730		
Gallons in Well:	4.1						

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1705	5	180	0	3.09	4.78	6.64	187	21.67	34.9	1.54	
1710	10	180	0.25	3.11	3.87	6.28	179	20.68	40.4	0.43	
1715	15	180	0.5	3.11	1.91	6.21	179	20.53	40.8	0.36	
1720	20	180	0.75	3.11	2.23	6.21	179	20.56	40.1	0.32	
1725	25	180	1.0	3.11	1.99	6.22	180	20.58	40.3	0.31	
1730	30	180	1.25	3.11	2.13	6.22	179	20.62	40.2	0.30	
				3.11 EM							
					Collected D.O. sample						

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab ✓ ARCADIS —	Preservative
VOCs (8260)	40mL VOA Vial	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	H17-mw-21D
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1233	Recorded By:	Erica Maddox		
Weather:		Duplicate/QA/QC:	H17-DUP-1		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:	——— ———	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible	Centrifugal	Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	25	To:	35
Total Depth:	35.0	Pump Intake Setting:	Midscreen 30'		
Depth to Water:	2.10	Volumes to be Purged:	LOW FLOW		
Water Column:	32.9	Total Volume Purged:	1.5		
Gallons/Foot:	0.16	Pump On:	1155	Off:	1233
Gallons in Well:	5.3				

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1200	5	180	0	2.31	13.8	7.45	283	21.79	25.7	5.32	
1205	10	180	0.25	2.29	3.75	7.23	280	21.30	27.6	0.98	
1210	15	180	0.50	2.29	1.90	7.21	280	21.30	27.7	0.60	
1215	20	180	0.75	2.29	2.12	7.23	280	21.36	23.2	0.48	
1220	25	180	1.0	2.29	2.71	7.23	280	21.25	22.4	0.37	
1225	30	180	1.25	2.29	2.76	7.25	280	21.14	24.1	0.32	
1230	35	180	1.5	2.29	2.87	7.25	280	21.12	23.9	0.31	

Erica Maddox 5/25/10

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	———
Odor:	NONE	Other (OVA, HNU,etc.):	———

Constituents Sampled	Container Description: From Lab ✓ ARCADIS ———	Preservative
VOCs (8260)	40 mL VOA vial	HCL

Boring/Casing Volumes
2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	HT-MW-21S
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1325	Recorded By:	Erica Maddox		
Weather:	Cloudy 80's	Duplicate/QA/QC:			

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020
Serial #:	— —	YSI 556

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	7 To: 17
Total Depth:	17	Pump Intake Setting:	Midscreen =12
Depth to Water:	4.60	Volumes to be Purged:	Low Flow
Water Column:	12.4	Total Volume Purged:	1.75
Gallons/Foot:	0.16	Pump On:	1240 Off: 1325
Gallons in Well:	1.98		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1245	5	180	0	4.65	4.66	6.98	208	20.94	28.3	1.93	
1250	10	180	0.25	4.65	3.11	6.88	208	20.84	29.7	0.73	
1255	15	180	0.5	4.69	2.70	6.82	207	20.69	29.4	0.48	
1300	20	180	0.75	4.69	2.05	6.82	207	20.69	28.2	0.43	
1305	25	180	1.0	4.69	2.98	6.84	207	20.75	26.8	0.39	
1310	30	180	1.25	4.69	1.67	6.86	207	20.90	28.0	0.34	
1315	35	180	1.5	4.69	1.88	6.86	206	20.85	28.3	0.34	
1320	40	180	1.75	4.69	1.35	6.87	206	20.97	28.5	0.32	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	DRUM
Color:	Clear	Turbidity(qualitative):	
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab ✓ ARCADIS	Preservative
VOCs (8260)	40ml VOA vial	HCl

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	H17-MW-22S
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:		Recorded By:	Erica Maddox		
Weather:	Sunny 90's	Duplicate/QA/QC:	None		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (A3597)
Serial #:	— —	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	7 To: 17
Total Depth:	17	Pump Intake Setting:	Midscreen
Depth to Water:	3.71	Volumes to be Purged:	Low Flow
Water Column:	13.29	Total Volume Purged:	6.0
Gallons/Foot:	0.16	Pump On:	1340 Off: 1540
Gallons in Well:	2.13		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1345	5	160	0	4.70	86.5	7.63	305	22.98	33.0	1.18	
1350	10	180	0.25	4.88	99.2	7.52	308	22.94	39.4	1.11	
1355	15	180	0.5	4.74	108.3	7.53	317	23.04	38.2	0.82	
1400	20	180	0.75	4.74	105.1	7.52	323	23.42	37.5	0.75	
1405	25	180	1.0	4.74	66.3	7.49	327	23.36	37.8	0.62	
1410	30	180	1.25	4.74	47.2	7.48	333	23.31	37.9	0.49	
1415	35	180	1.5	4.74	41.1	7.46	335	23.44	36.9	0.44	
1420	40	180	1.75	4.74	35.6	7.47	337	23.55	37.9	0.37	
1425	45	180	2.0	4.74	31.1	7.44	339	23.33	38.6	0.36	
1430	50	180	2.25	4.74	27.6	7.44	342	23.71	38.3	0.33	
1435	55	180	2.5	4.74	23.2	7.48	348	24.05	38.1	0.30	
1440	60	180	2.75	4.74	19.8	7.45	352	23.42	38.0	0.29	
1445	65	180	3.0	4.74	17.3	7.42	352	23.56	38.2	0.26	
1450	70	180	3.25	4.74	15.8	7.43	354	23.68	38.4	0.23	
1455	75	180	3.5	4.74	14.5	7.43	356	24.13	37.8	0.23	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	— —
Odor:	None	Other (OVA, HNU,etc.):	— —

Constituents Sampled	Container Description: From Lab √ ARCADIS —	Preservative
VOCs (8260)	40mL VOA Vial	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	H17-MW-225
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1542	Recorded By:	Erica Maddox		
Weather:	Sunny, 90's	Duplicate/QA/QC:	NONE		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:	—	YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	7 To: 17
Total Depth:	17	Pump Intake Setting:	Mid screen
Depth to Water:	3.71	Volumes to be Purged:	Low Flow
Water Column:	13.29	Total Volume Purged:	6.0
Gallons/Foot:	0.16	Pump On:	1340 Off: 1540
Gallons in Well:	2.13		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (umhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1500	80	180	3.75	3.75	14.0	7.47	357	23.91	37.9	0.22	
1505	85	180	4.25	3.75	12.3	7.45	357	24.04	38.0	0.21	
1510	90	180	4.5	3.75	12.6	7.43	359	24.19	37.8	0.20	
1515	95	180	4.75	3.75	10.75	7.44	361	24.36	37.9	0.20	
1520	100	180	5.0	3.75	9.74	7.43	363	24.19	37.5	0.19	
1525	105	180	5.25	3.15	9.10	7.42	364	24.08	38.1	0.19	
1530	110	180	5.5	3.74	8.86	7.42	365	23.84	36.6	0.19	
1535	115	180	5.75	3.74	7.90	7.42	365	23.87	37.8	0.18	
1540	120	180	6.0	3.75	7.80	7.41	366	23.56	38.2	0.18	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	Cloudy
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab ✓ ARCADIS	Preservative
VOCs (8260)	40mL VOA vials	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

Groundwater Sampling Form

Site Location:	Fort Stewart/HAAF	Project No.	GP08HAFS	Well ID:	HI7-MW-22D
Date:	5-25-10	Sampled By:	Erica Maddox		
Sampling Time:	1642	Recorded By:	Erica Maddox		
Weather:	Sunny, 80's	Duplicate/QA/QC:	None		

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
		Lamotte 2020 (R3597)
Serial #:		YSI 556 (R8526)

Purging Information

Casing Material:	PVC	Purge Method: (circle one)	Submersible Centrifugal Bladder Bailer (Peristaltic)
Casing Diameter:	2"	Screen Interval: From:	25 To: 35
Total Depth:	35	Pump Intake Setting:	Midscreen 30
Depth to Water:	2.23	Volumes to be Purged:	Low Flow
Water Column:	32.77	Total Volume Purged:	2.0
Gallons/Foot:	0.16	Pump On:	1555 Off: 1640
Gallons in Well:	5.24		

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (°C or °F)	ORP (mV)	Diss. Oxygen	Comments
1600	5	180	0	2.57	19.7	8.50	291	26.07	39.6	1.29	
1605	10	180	0.25	2.57	18.0	8.43	288	24.43	40.6	0.55	
1610	15	180	0.5	2.57	15.6	8.22	286	22.99	41.6	0.24	
1615	20	180	0.75	2.57	13.1	8.22	286	23.12	41.0	0.21	
1620	25	180	1.0	2.57	10.29	8.19	286	23.02	38.7	0.19	
1625	30	180	1.25	2.57	9.49	8.15	285	23.09	38.8	0.18	
1630	35	180	1.5	2.57	9.50	8.12	286	23.17	39.3	0.17	
1635	40	180	1.75	2.57	8.86	8.11	286	23.08	39.6	0.17	
1640	45	180	2.0	2.57	8.66	8.08	285	23.11	39.8	0.17	

Observations During Sampling

Well Condition:	Good	Purge Water Disposal:	Drum
Color:	Clear	Turbidity(qualitative):	
Odor:	None	Other (OVA, HNU,etc.):	

Constituents Sampled	Container Description: From Lab √ ARCADIS	Preservative
VOCs (8260)	40mL VOA vials	HCL

Boring/Casing Volumes

2" = 0.16 4" = 0.65

HAA-17

Sampler(s) Name(s): Erica Maddox

Well Inspection Log

	Gauging Date	Water Level (ft bTOC)	Well ID visible	Concrete pad intact	Well cap intact and water-tight	Water in Vault	Well locked or bolted down	Well casing in good	Other Observations
H17-MW-17D	5/24/10	7.59	yes	yes	yes	NO	yes	Good	
H17-MW-17S		6.58	yes	yes	yes	NO	yes	Good	
H17-MW-18D		5.89	yes	yes	yes	NO	yes	Good	
H17-MW-19S		7.46	yes	yes	yes	NO	yes	Good	
H17-MW-20D		2.49	yes	yes	yes	NO	yes	Good	
H17-MW-21D		2.15	yes	yes	yes	NO	yes	Good	
H17-MW-21S		4.85	yes	yes	yes	NO	yes	Good	
H17-MW-22D		2.42	yes	yes	yes	NO	yes	Good	
H17-MW-22S		5.61	yes	yes	yes	NO	yes	Good	
MW-15S									Could not get the lid off
MW-16S		3.0	yes	yes	yes	NO	yes	Good	
AT-MW-01		3.15	yes	yes	yes	NO	yes	Good	
AT-MW-02		2.93	yes	yes	yes	NO	yes	Good	
AT-MW-03		2.94	yes	yes	yes	NO	yes	Good	
AT-MW-04		3.98	yes	yes	yes	NO	yes	Good	
AT-MW-05		3.66	yes	yes	yes	NO	yes	Good	
MW-8D		5.62	yes	yes	yes	NO	yes	Good	
MW-8S		5.42	yes	yes	yes	NO	yes	Good	
MW-9D		8.81	yes	yes	yes	NO	yes	Good	
MW-9S		7.40	yes	yes	yes	NO	yes	Good	

HAA-17

Sampler(s) Name(s): Erica Maddox

Well Inspection Log

	Gauging Date	Water Level (ft bTOC)	Well ID visible	Concrete pad intact	Well cap intact and water-tight	Water in Vault	Well locked or bolted down	Well casing in good	Other Observations
AF-01	5/24/10	3.60	yes	yes	yes	NO	yes	Good	
AF-04		1.68	yes	yes	yes	yes	yes	Good	
AF-08		3.10	yes	yes	yes	yes	yes	Good	
AF-14		3.37	yes	yes	yes	yes	yes	Good	
AF-15		4.64	yes	yes	yes	NO	yes	Good	
AF-20		3.70	yes	yes	yes	NO	yes	Good	
AF-23		3.88	yes	yes	yes	NO	yes	Good	
AF-24		2.20	yes	yes	yes	NO	yes	Good	
AF-41		4.69	yes	yes	yes	NO	yes	Good	
AF-53		4.60	yes	yes	yes	yes	yes	Good	
AF-54		3.29	yes	yes	yes	NO	yes	Good	
AF-55		3.21	yes	yes	yes	yes	yes	Good	
AF-56		4.34	yes	yes	yes	NO	yes	Good	
AF-57		2.80	yes	yes	yes	NO	yes	Good	
AF-58		7.51	yes	yes	yes	NO	yes	Good	
AF-60		2.98	yes	yes	yes	NO	yes	Good	
AF-61		4.56	yes	yes	yes	NO	yes	Good	
AF-68		4.48	yes	yes	yes	yes	yes	Good	
AF-70	↓	3.64	yes	yes	yes	NO	yes	Good	

* Wells around Bldg 1290 needs a special tool to open, see picture.
* If 46 wells are not on this list, it means they were not found

RECEIVED
AUG 26 2008
PAGE 1 OF 1

Georgia Department of Natural Resources
Environmental Protection Division
Underground Storage Tank Management Program
4244 International Parkway, Suite 104, Atlanta, Georgia 30354
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
(404) 362-2687

August 19, 2008

Mr. Thomas C. Fry
U.S. Army/HQ, 3d Inf. Div. (Mech)
Directorate of Public Works, Bldg.1137
1550 Frank Cochran Drive
Fort Stewart, Georgia 31314-4927

SUBJECT: Corrective Action Plan (CAP)-Part B Monitoring Report
No Further Action Required:
Hunter AAF, Former UST # 25 and # 26
Building 1343
Hunter Army Airfield, Chatham County, GA
Facility ID: 9025008*1

Dear Mr. Fry:

The Georgia Underground Storage Tank Management Program (USTMP) has received your consultant's letter, dated July 25, 2008, that forwarded a properly certified CAP-Part B Monitoring Report. The report was prepared by SpecPro Environmental Services LLC (SES).

Based on current requirements of the Georgia Underground Storage Tank Act, the Georgia Rules for Underground Storage Tank Management (GUST Rules) and the data submitted, the USTMP has determined that **no further action is required for the reference release.**

However, further corrective action may be required if mandated through more stringent State or Federal statutory or regulatory changes. Additional measures may also be required if existing or future drinking water systems or surface water bodies within two miles of the site are impacted by any dissolved contamination resulting from this release, or if previously unidentified soil contamination, dissolved contamination or free product are identified as originating from this site.

Please submit a Completion Report and Certification, documenting that the associated monitoring wells have been properly abandoned, by **November 30, 2008**. If you have any questions, please contact William E. Logan at 404.362.4529.

Sincerely,

Ronald J. Wilcox for LLL

Lisa L. Lewis
Unit Coordinator
Corrective Action Unit II

WEL;
S: land/landdocs/williaml/Pend08/9025008. 34
cc: Jeffery C. Williams, P.E., SES
William E. Logan, GA EPD
File (CA): CHATHAM; 9025008

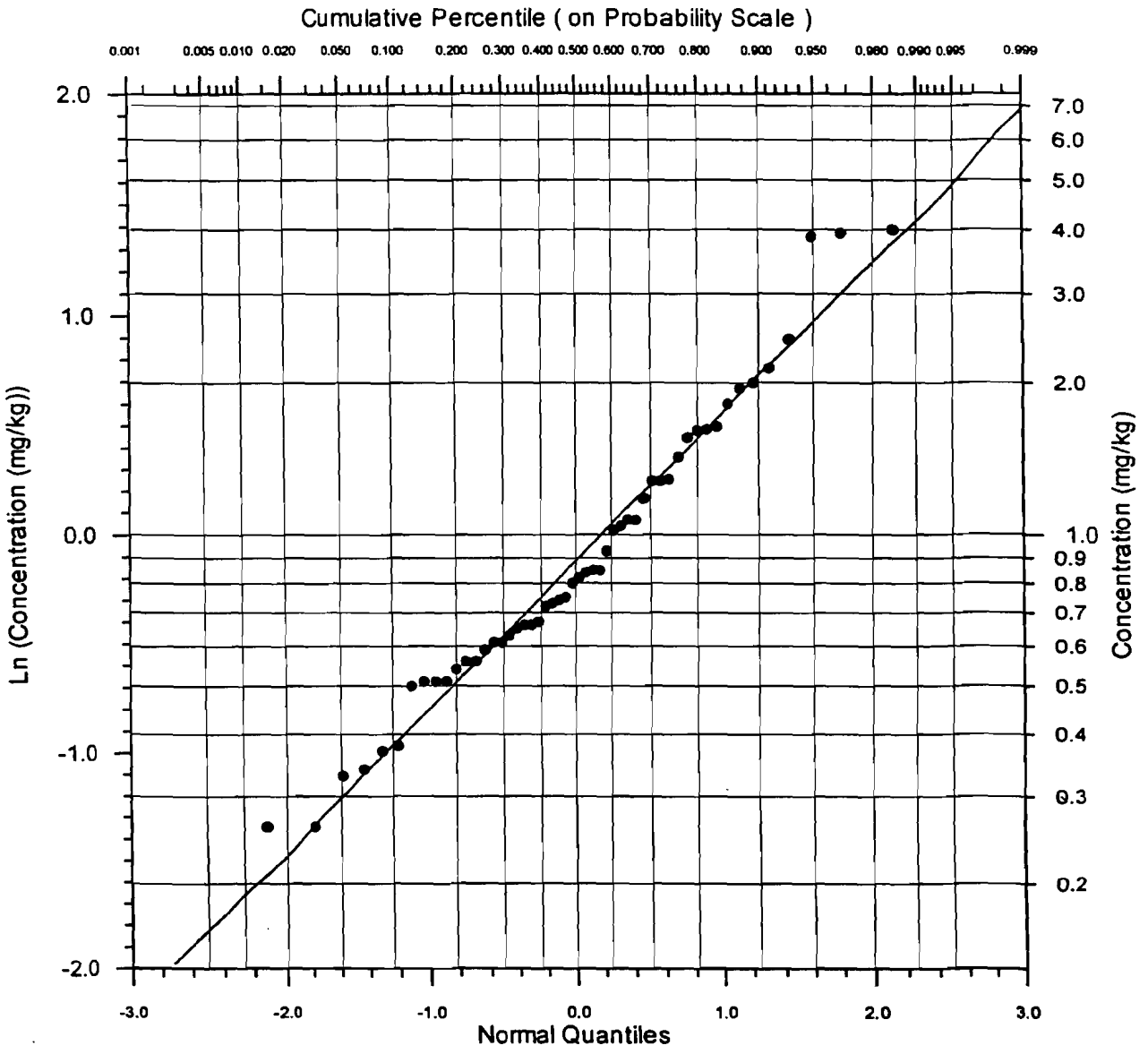
Metal	UBC (mg/kg)	Statistical Method	HSRA Table 2, Appendix III Values
Arsenic	2.6	Log-normal data Mean + 1.645 std. Dev	20
Barium	28	Log-normal data Mean + 1.645 std. Dev	1000
Cadmium	2.6	Non-Parametric, Max observed value	2
Chromium	7.7	Log-normal data Mean + 1.645 std. Dev	100
Lead	53	Log-normal data Mean + 1.645 std. Dev	75
Mercury	0.39	Non-Parametric, Max observed value	0.5
Selenium	1.9	Log-normal data Mean + 1.645 std. Dev	2
Silver	2.6	Non-Parametric, Max observed value	2

As indicated above, the UBC for arsenic, barium, chromium, lead, mercury, and selenium are below the HSRA Table 2, Appendix III values (which are based on GAEPD's estimate of statewide background). The UBCs were then used to evaluate where metals concentrations exceeded background and if the extent of metals could be delineated using the existing data. The results of the evaluation indicated that most of the exceedences of the background concentration (i.e., UBCs) were within the excavated area and areas immediately adjacent to the excavated area. The evaluation also indicated that the extent of the metals in soils was not completely delineated to the north and west of the excavated area. Additional delineation for chromium was conducted to the north of HMW-13 and to the west of HMW-11, for barium to the west of SB-13 (Figure 4.11).

Groundwater

Background groundwater samples from off-site locations were not collected during the 1999/2000 CSR assessment activities. However, review of previous groundwater analytical data collected during 1995 indicated that VOCs, PAHs, and metals (except barium) were not detected in groundwater samples

STATISTICAL DATA AND STATISTICAL PLOTS



LEGEND:

- Arsenic (mg/kg)

LN(Data) Passed the Shapiro-Francia Normality Test indicating the Data are Lognormal. Probability Plot is Detects-Only. 7.9% ND. NDs/2 were included in UBC calculation.

Upper Background Concentration: **2.6 mg/kg**
Based on LN(Data) mean + 1.645 Standard Deviations
LN (Data) Mean: -0.2018 SD: 0.7012

Total 63 samples, of which 57 data points were used for UBC and 52 for Probability Plot.
Two data points, BH-11(13.90) and BH-13(11.98), are statistical outliers
By ASTM Designation E178-75, 1975.
5% significance level.
Four data points, BH-10 (5.99), BH-13 (7.75), FTASB-11 (0.86),and HMW-13 (0.6), are rejected due to being outliers in other metals data sets.

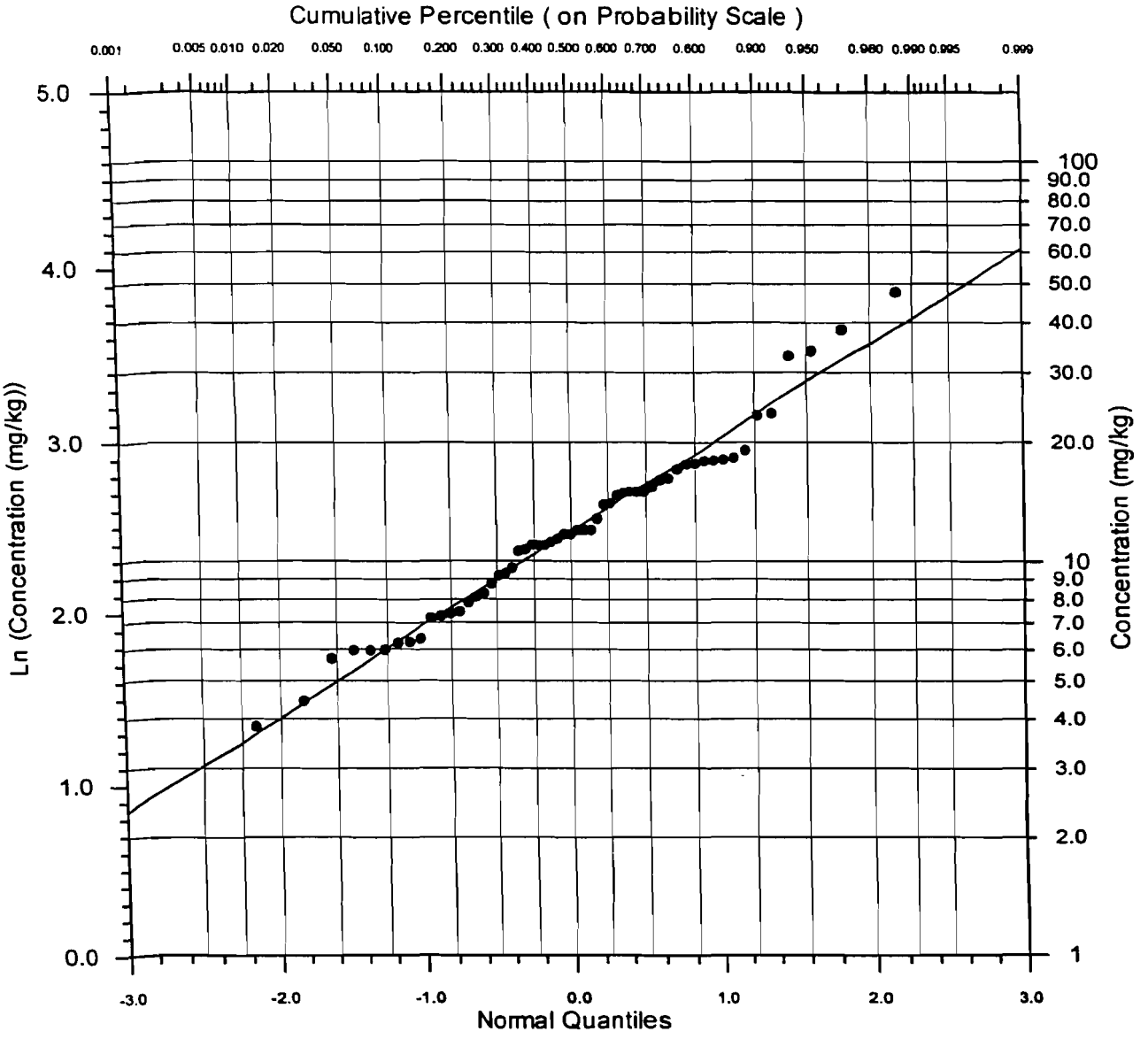
Distribution of Background Arsenic
in Soils at Hunter Army Airfield

ARSENIC

Sample ID	Sample Depth (feet)		Concentration (mg/kg)	Outlier Test Statistic				Data (-Outliers +ND/2)	LN (Data)			LN data	Test Statistic for LN data		Txx for outlier
BH-10	0 - 1		5.89	1.773	Rejected	*All Data w/DLs*		2.000	0.693147	*LN Data*		1.790091			2.08367308
BH-10	7.5-8.5		2.00	0.148				3.880	1.355835			0.693147			0.8039484
BH-11	0 - 1		13.90	4.996	Outlier	Mean	1.636984	4.000	1.386294	Mean	-0.20181	2.631889			3.06573663
BH-11	7.5-8.5		3.88	0.914		Std. Error	0.309251	0.980	-0.0202	Std. Error	0.092878	1.355835	*Column1*		1.57705804
BH-12	0 - 1		4.00	0.963		Median	0.82	3.940	1.371181	Median	-0.28768	1.386294			1.61259257
BH-12	6.5-7.5	<	1.96	0.132		Mode	0.51	0.240	-1.42712	Mode	-1.34707	0.672944	Mean	0.004025	0.78037938
BH-13			11.98	4.214	Outlier	Std. Dev.	2.4546	0.260	-1.34707	Std. Dev.	0.701217	2.483239	Standard E	0.107994	2.89231725
BH-13	0 - 1		7.75	2.490	Rejected	Variance	6.025063	0.270	-1.30933	Variance	0.491705	2.047693	Median	-0.19845	2.38419785
BH-13	6.0-7.5		3.94	0.938		Kurtosis	14.44536	0.650	-0.43078	Kurtosis	-0.20525	1.371181	Mode	-0.67334	1.59496059
HSB-1	8 - 10	<	0.48	0.471		Skewness	3.664717	0.850	-0.16252	Skewness	0.292822	-0.73397	Standard D	0.857172	0.86096397
HSB-2	3 - 5	<	0.52	0.455		Range	13.64	0.275	-1.29098	Range	2.813411	-0.65393	Sample Va	0.734744	0.76758399
HSB-3	6 - 8	<	0.54	0.447		Minimum	0.26	1.020	0.019803	Minimum	-1.42712	-0.61619	Kurtosis	1.438998	0.72355511
HSB-4	2 - 4		0.65	0.402		Maximum	13.9	0.630	-0.46204	Maximum	1.386294	-0.43078	Skewness	1.174989	0.50725871
HSB-5	5 - 8		0.85	0.321		Sum	103.13	1.280	0.24686	Sum	-11.5034	-0.16252	Range	3.978962	0.19429472
HSB-6	8-10	<	0.55	0.443		Count	63	2.440	0.891998	Count	57	-0.59784	Minimum	-1.34707	0.70214851
HS-1	0 - 1		1.02	0.251		Crit. Val.	3.044	0.510	-0.67334			0.019803	Maximum	2.631889	0.01840652
HS-2	3 - 4		0.63	0.410				0.340	-1.07881			-0.46204	Sum	0.25358	0.54371877
HS-3	0 - 1		1.28	0.145				0.330	-1.10866			0.24686	Count	63	0.28329785
HS-4	3 - 4		2.44	0.327				0.540	-0.61619			0.891998			1.03593317
HS-10	0 - 1		0.51	0.459				0.590	-0.52763			-0.67334			0.79023765
HS-11	3.5 - 4		0.34	0.528				0.610	-0.4943			-1.07881			1.26326416
HS-12	0 - 1		0.33	0.532				0.560	-0.57982			-1.10866			1.29809143
HS-13	3.5 - 4		0.54	0.447				0.500	-0.69315			-0.61619			0.72355511
HS-14	5.5 - 6.5		0.59	0.427				0.930	-0.07257			-0.52763			0.62024633
HS-18	0 - 1		0.61	0.418				0.370	-0.99425			-0.4943			0.58135516
HS-19	3.5 - 4		0.56	0.439				1.610	0.476234			-0.57982			0.68112763
HS-7	0 - 1		0.5	0.463				1.180	0.165514			-0.69315			0.81333993
HS-8	3 - 4		0.93	0.288				0.850	-0.16252			-0.07257			0.08935869
HS-9	7.5 - 8.5		0.37	0.516				0.820	-0.19845			-0.99425			1.16461724
HS-15	0 - 1		1.61	0.011				0.560	-0.57982			0.476234			0.55089185
HS-16	3 - 4		1.18	0.186				0.660	-0.41552			0.165514			0.18839784
HS-17	6 - 7		0.85	0.321				1.820	0.598837			-0.16252			0.19429472
FTASB-04	0.5 - 1.0		0.82	0.333				1.070	0.067659			-0.19845			0.23621397
FTASB-06	0.5 - 1.0		0.56	0.439				1.560	0.444686			-0.57982			0.68112763
FTASB-09	0.5 - 1.0		0.66	0.398				1.280	0.24686			-0.41552			0.48944727
FTASB-10	0.5 - 1.0		1.82	0.075				1.950	0.667829			0.598837			0.69392302
FTASB-11	0.5 - 1.0		0.85	0.317	Rejected			1.430	0.357674			-0.15082			0.18064981
FTASB-12	0.5 - 1.0		1.07	0.231				2.140	0.760806			0.067659			0.07423664
FRASB-13	0.5 - 2.5		1.56	0.031				1.640	0.494696			0.444686			0.51408669
FTASB-14	0.5 - 2.5		1.28	0.145				0.510	-0.67334			0.24686			0.28329785
FTASB-15	0.5 - 2.5		1.95	0.128				0.660	-0.41552			0.667829			0.77441197
FTASB-16	0.5 - 2.5		1.43	0.084				0.740	-0.30111			0.357674			0.41257687
FTASB-17	0.5 - 2.5		2.14	0.205				1.070	0.067659			0.760806			0.8828808
HMW-10	0.0 - 2.0		1.64	0.001				0.670	-0.40048			0.494696			0.57243019

ARSENIC

Sample ID	Sample Depth (feet)	Concentration (mg/kg)		Outlier Test Statistic		Data (-Outliers +ND/2)	LN (Data)	LN data	Test Statistic for LN data	Txx for outlier
HMW-12	1.5 - 3.0	0.51		0.459		0.380	-0.96758	-0.67334		0.79023765
FTASB-04	9.0 - 10.5	0.66	J	0.398		0.800	-0.22314	-0.41552		0.48944727
FTASB-06	8.5 - 10.5	0.74	J	0.365		1.620	0.482426	-0.30111		0.35597307
FTASB-09	6.0 - 7.0	1.07	J	0.231		0.730	-0.31471	0.067659		0.07423664
FTASB-10	9.1 - 10.4	0.67	J	0.394		0.610	-0.4943	-0.40048		0.47190368
FTASB-11	9.5 - 10.0	0.38	J	0.512		1.290	0.254642	-0.96758		1.13350534
FTASB-12	8.0 - 10.0	0.8	J	0.341		0.260	-1.34707	-0.22314		0.26502104
FTASB-13	2.5 - 4.5	1.62	J	0.007		0.260	-1.34707	0.482426		0.55811557
FTASB-14	4.5 - 6.5	0.73	J	0.370		0.840	-0.17435	-0.31471		0.37184579
FTASB-15	4.5 - 6.5	0.61	JQ	0.418		0.750	-0.28768	-0.4943		0.58135516
FTASB-16	6.5 - 8.1	1.29	JQ	0.141		0.510	-0.67334	0.254642		0.29237671
FTASB-17	4.5 - 6.5	0.26	JQ	0.561		1.040	0.039221	-1.34707		1.57622815
HMW-10	2.0 - 4.0	0.26	JQ	0.561		0.720	-0.3285	-1.34707		1.57622815
HMW-11	2.0 - 4.0	0.84	JQ	0.325				-0.17435		0.20810112
HMW-11	6.0 - 8.0	0.75	JQ	0.361				-0.28768		0.34031342
HMW-12	1.5 - 3.0	0.51	JQ	0.459				-0.67334		0.79023765
HMW-12	4.5 - 6.0	1.04	JQ	0.243				0.039221		0.04106018
HMW-13	2.0 - 4.0	0.72	JQ	0.374				-0.3285		0.38793745
HMW-13	8.0 - 10.0	0.4	JQ	0.422	Rejected			-0.51083		0.60063869



LEGEND:

- Barium (mg/kg)

LN(Data) Passed Shapiro-Francia Test of Normality Indicating the Data are Lognormal.
Probability Plot is Detects-Only. 0% ND.

Upper Background Concentration: **28.3 mg/kg**
Based on Ln (Data) mean + 1.645 Standard Deviations.
LN (Data) Mean: 2.4788 SD: 0.5257

Total 63 samples, of which 57 data points were used for UBC and Probability Plot.
Two data points, BH-10(64.4) and FTASB-11(69), are statistical outliers
By ASTM Designation E178-75, 1975.
5% significance level.
Four data points, BH-11 (33.50), BH-13 (27.10), BH-13 (19.80), and HMW-13 (27),
are rejected due to being outliers in other metals data sets.

Distribution of Background Barium
in Soils at Hunter Army Airfield

BARIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	
BH-10	0 - 1	64.4	3.807	Outlier
BH-10	7.5-8.5	9.19	0.560	
BH-11	0 - 1	33.50	1.363	Rejected
BH-11	7.5-8.5	18.10	0.145	
BH-12	0 - 1	7.19	0.718	
BH-12	6.5-7.5	8.12	0.645	
BH-13		27.10	0.857	Rejected
BH-13	0 - 1	10.50	0.279	Rejected
BH-13	6.0-7.5	8.28	0.632	
HSB-1	8 - 10	3.83	0.984	
HSB-2	3 - 5	5.97	0.815	
HSB-3	6 - 8	6.21	0.796	
HSB-4	2 - 4	4.44	0.936	
HSB-5	5 - 8	15.40	0.069	
HSB-6	8-10	11.20	0.401	
HS-1	0 - 1	11.40	0.385	
HS-2	3 - 4	12.80	0.275	
HS-3	0 - 1	14.90	0.108	
HS-4	3 - 4	23.40	0.564	
HS-10	0 - 1	18.30	0.161	
HS-11	3.5 - 4	13.90	0.188	
HS-12	0 - 1	9.60	0.528	
HS-13	3.5 - 4	14.70	0.124	
HS-14	5.5 - 6.5	17.70	0.113	
HS-18	0 - 1	16.20	0.006	
HS-19	3.5 - 4	19.10	0.224	
HS-7	0 - 1	23.70	0.588	
HS-8	3 - 5	15.00	0.101	
HS-9	7.5 - 8.5	17.10	0.066	
HS-15	0 - 1	47.60	2.478	
HS-16	3 - 4	38.40	1.751	

All Data w/DLs	
Mean	16.27095
Std. Error	1.592632
Median	12
Mode	15
Std. Dev.	12.64112
Variance	159.798
Kurtosis	7.129523
Skewness	2.473057
Range	65.17
Minimum	3.83
Maximum	69
Sum	1025.07
Count	63
Crit. Val.	3.044

Data (-Outliers +ND/2)	LN (Data)
9.19	2.218116
18.1	2.895912
7.19	1.972691
8.12	2.09433
8.28	2.113843
3.83	1.342865
5.97	1.786747
6.21	1.826161
4.44	1.490654
15.4	2.734368
11.2	2.415914
11.4	2.433613
12.8	2.549445
14.9	2.701361
23.4	3.152736
18.3	2.906901
13.9	2.631889
9.6	2.261763
14.7	2.687847
17.7	2.873565
16.2	2.785011
19.1	2.949688
23.7	3.165475
15	2.70805
17.1	2.839078
47.6	3.862833
38.4	3.648057
17.6	2.867899
11	2.397895
7.45	2.008214
11	2.397895

LN Data	
Mean	2.478789
Std. Error	0.069626
Median	2.459589
Mode	2.70805
Std. Dev.	0.525668
Variance	0.276327
Kurtosis	0.204707
Skewness	0.30929
Range	2.519968
Minimum	1.342865
Maximum	3.862833
Sum	141.2909
Count	57

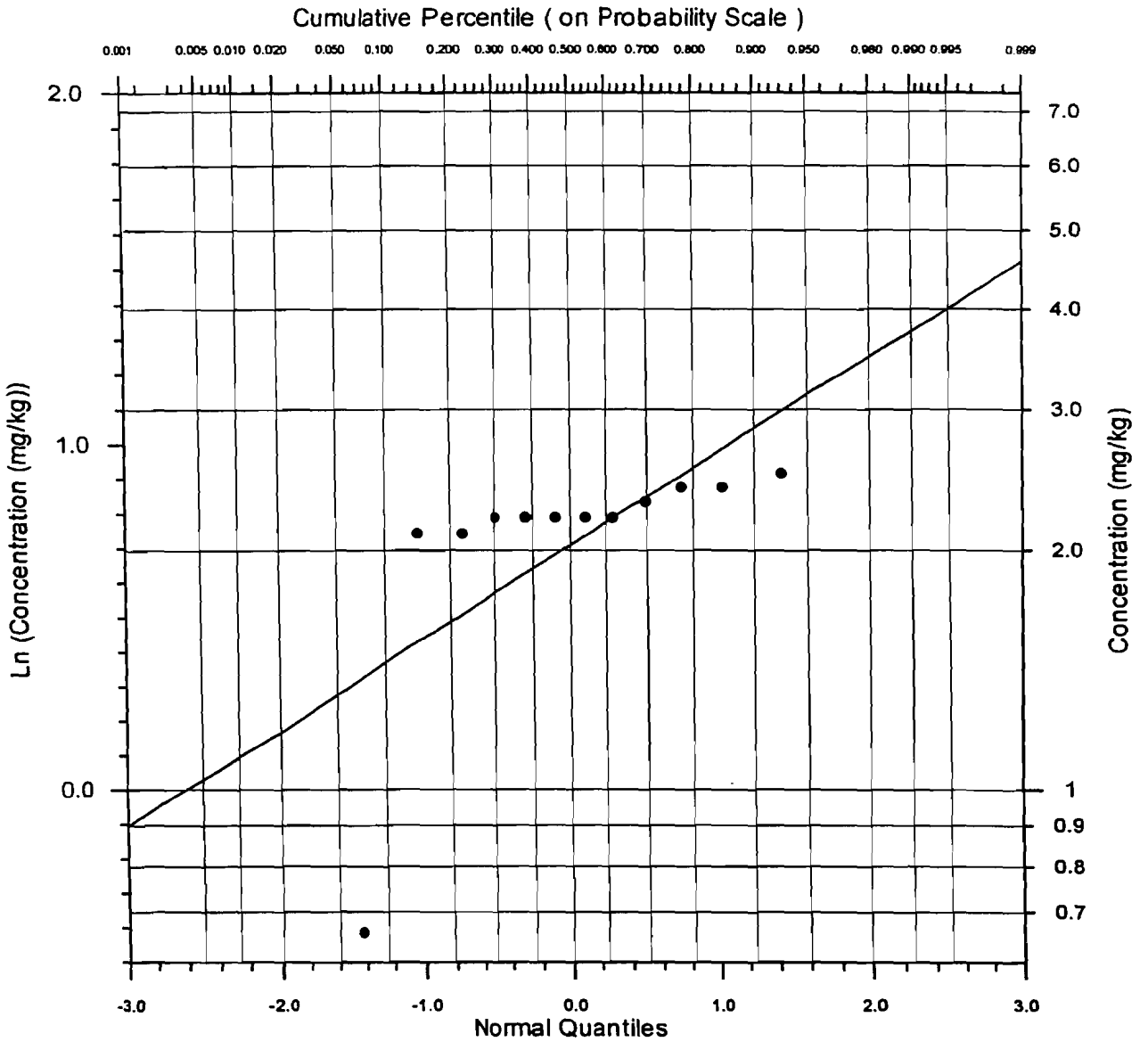
LN data
4.165114
2.218116
3.511545
2.895912
1.972691
2.09433
3.299534
2.985682
2.113843
1.342865
1.786747
1.826161
1.490654
2.734368
2.415914
2.433613
2.549445
2.701361
3.152736
2.906901
2.631889
2.261763
2.687847
2.873565
2.785011
2.949688
3.165475
2.70805
2.839078
3.862833
3.648057

Column1		
Mean	2.583853	
Standard E	0.077348	
Median	2.484907	
Mode	2.70805	
Standard D	0.61393	
Sample Va	0.37691	
Kurtosis	0.341383	
Skewness	0.541552	
Range	2.891242	
Minimum	1.342865	
Maximum	4.234107	
Sum	162.7828	
Count	63	

Txx for outlier
2.575636
0.595731
1.511071
0.508296
0.995492
0.79736
1.165736
0.654518
0.765576
2.021384
1.298367
1.234167
1.780657
0.245165
0.273548
0.244719
0.056046
0.191403
0.926624
0.526196
0.078242
0.524637
0.169391
0.471896
0.327656
0.59589
0.947374
0.202298
0.415723
2.083265
1.733429

BARIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic		Data (-Outliers +ND/2)	LN (Data)	LN data	Txx for outlier
HS-17	6 - 7	17.60	0.105		34	3.526361	2.867899	0.462667
FTASB-04	0.5 - 1.0	11	0.417		9.3	2.230014	2.397895	0.302898
FTASB-06	0.5 - 1.0	7.45	0.698		12	2.484907	2.008214	0.93763
FTASB-09	0.5 - 1.0	11	0.417		12	2.484907	2.397895	0.302898
FTASB-10	0.5 - 1.0	34	1.402		18	2.890372	3.526361	1.535203
FTASB-11	0.5 - 1.0	69	4.171	Outlier	11	2.397895	4.234107	2.688015
FTASB-12	0.5 - 1.0	9.3	0.551		18	2.890372	2.230014	0.576351
FRASB-13	0.5 - 2.5	12	0.338		16	2.772589	2.484907	0.161169
FTASB-14	0.5 - 2.5	12	0.338		5.96	1.78507	2.484907	0.161169
FTASB-15	0.5 - 2.5	18	0.137		12	2.484907	2.890372	0.499272
FTASB-16	0.5 - 2.5	11	0.417		11.7	2.459589	2.397895	0.302898
FTASB-17	0.5 - 2.5	18	0.137		15	2.70805	2.890372	0.499272
HMW-10	0.0 - 2.0	16	0.021		14	2.639057	2.772589	0.307421
HMW-12	1.5 - 3.0	5.96	0.816		10.6	2.360854	1.78507	1.301098
FTASB-04	9.0 - 10.5	12	0.338		15	2.70805	2.484907	0.161169
FTASB-06	8.5 - 10.5	11.7 J	0.362		33	3.496508	2.459589	0.202408
FTASB-09	6.0 - 7.0	15	0.101		8.77	2.171337	2.70805	0.202298
FTASB-10	9.1 - 10.4	14	0.180		7.27	1.983756	2.639057	0.089919
FTASB-11	9.5 - 10.0	10.6 J	0.449		10.7	2.370244	2.360854	0.363233
FTASB-12	8.0 - 10.0	15	0.101		6.38	1.853168	2.70805	0.202298
FTASB-13	2.5 - 4.5	33	1.323		6.25	1.832581	3.496508	1.486577
FTASB-14	4.5 - 6.5	8.77 J	0.593		11.7	2.459589	2.171337	0.671928
FTASB-15	4.5 - 6.5	7.27 JQ	0.712		7.37	1.997418	1.983756	0.977468
FTASB-16	6.5 - 8.1	10.7 J	0.441		5.96	1.78507	2.370244	0.347938
FTASB-17	4.5 - 6.5	6.38 JQ	0.782		5.68	1.736951	1.853168	1.190177
HMW-10	2.0 - 4.0	6.25 JQ	0.793		7.85	2.060514	1.832581	1.223709
HMW-11	2.0 - 4.0	11.7 J	0.362				2.459589	0.202408
HMW-11	6.0 - 8.0	7.37 JQ	0.704				1.997418	0.955216
HMW-12	1.5 - 3.0	5.96 JQ	0.816				1.78507	1.301098
HMW-12	4.5 - 6.0	5.68 JQ	0.838				1.736951	1.379477
HMW-13	2.0 - 4.0	7.85 JQ	0.666				2.060514	0.852442
HMW-13	8.0 - 10.0	27	0.849	Rejected			3.295837	1.159714



LEGEND:

- Cadmium (mg/kg)

Due to high percentage of non-detects the data can not be validly normalized.
Probability Plot is Detects-Only. 79% NDs.

Upper Background Concentration: **2.6 mg/kg**
Based on non-parametric analysis, UBC is set equal to the maximum observed value.
5% Significance Level and 98% expected coverage.

Total of 63 samples, of which 57 data points were used for UBC and 12 for Probability Plot.
No Data Points are determined to be statistical outliers.
By ASTM Designation E178-75, 1975.
5% significance level.
Six data points, BH-10 (<1.98), BH-11 (1.99), BH-13 (0.02), BH-13 (3.87), FTASB-11 (2.2), and HMW-13 (<2.3), are rejected due to being outliers in other metals data sets.

Distribution of Background Cadmium
in Soils at Hunter Army Airfield

CADMIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic
BH-10	0 - 1	< 1.98	0.415
BH-10	7.5-8.5	< 1.98	0.415
BH-11	0 - 1	1.99	0.425
BH-11	7.5-8.5	< 1.98	0.415
BH-12	0 - 1	< 1.98	0.415
BH-12	6.5-7.5	< 1.98	0.415
BH-13		0.02	1.675
BH-13	0 - 1	3.87	2.430
BH-13	6.0-7.5	< 1.98	0.415
HSB-1	8 - 10	< 0.37	1.302
HSB-2	3 - 5	< 0.40	1.270
HSB-3	6 - 8	< 0.42	1.249
HSB-4	2 - 4	< 0.41	1.259
HSB-5	5 - 8	< 0.45	1.217
HSB-6	8-10	< 0.42	1.249
HS-1	0 - 1	< 0.52	1.142
HS-2	3 - 4	< 0.57	1.089
HS-3	0 - 1	< 0.54	1.121
HS-4	3 - 4	< 0.55	1.110
HS-10	0 - 1	< 0.51	1.153
HS-11	3.5 - 4	< 0.54	1.121
HS-12	0 - 1	< 0.51	1.153
HS-13	3.5 - 4	< 0.54	1.121
HS-14	5.5 - 6.5	< 0.54	1.121
HS-18	0 - 1	< 0.50	1.163
HS-19	3.5 - 4	< 0.55	1.110
HS-7	0 - 1	< 0.54	1.121
HS-8	3 - 5	< 0.54	1.121
HS-9	7.5 - 8.5	< 0.53	1.131
HS-15	0 - 1	< 0.51	1.153
HS-16	3 - 4	< 0.52	1.142

Column1	
Mean	1.591111
Standard E	0.118161
Median	1.99
Mode	2.4
Standard D	0.937875
Sample Va	0.87961
Kurtosis	-1.34677
Skewness	-0.17072
Range	3.85
Minimum	0.02
Maximum	3.87
Sum	100.24
Count	63
Crit. Val.	3.044

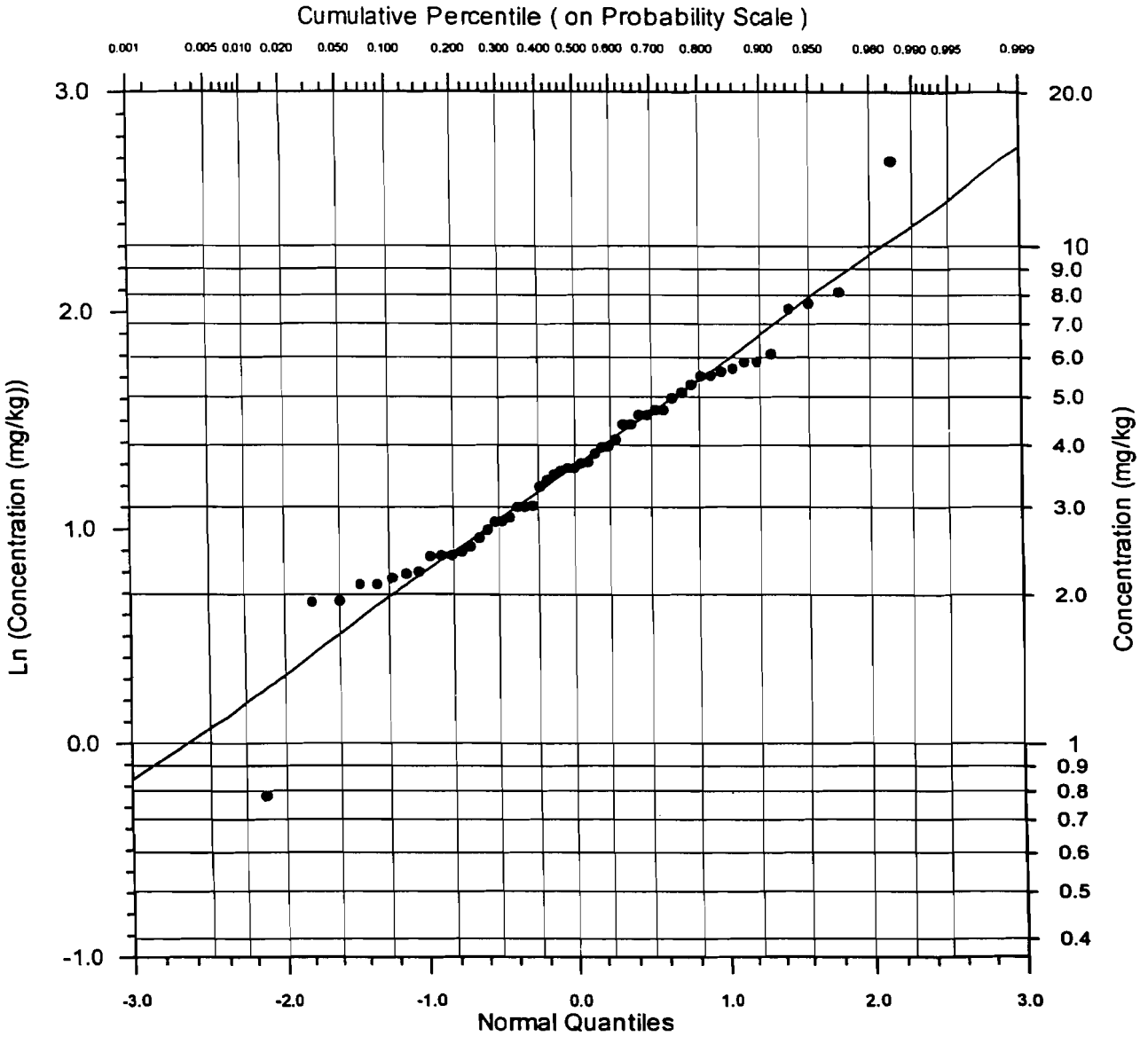
H-11

CADMIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic
HS-17	6 - 7	< 0.54	1.121
FTASB-04	0.5 - 1.0	2.2	0.649
FTASB-06	0.5 - 1.0	2.1	0.543
FTASB-09	0.5 - 1.0	2.5	0.969
FTASB-10	0.5 - 1.0	0.66	0.993
FTASB-11	0.5 - 1.0	2.2	0.649
FTASB-12	0.5 - 1.0	2.4	0.862
FRASB-13	0.5 - 2.5	2.2	0.649
FTASB-14	0.5 - 2.5	2.2	0.649
FTASB-15	0.5 - 2.5	2.2	0.649
FTASB-16	0.5 - 2.5	2.1	0.543
FTASB-17	0.5 - 2.5	2.2	0.649
HMW-10	0.0 - 2.0	2.3	0.756
HMW-12	1.5 - 3.0	2.4	0.862
FTASB-04	9.0 - 10.5	< 2.4	0.862
FTASB-06	8.5 - 10.5	< 2.6	1.076
FTASB-09	6.0 - 7.0	< 2.3	0.756
FTASB-10	9.1 - 10.4	< 2.4	0.862
FTASB-11	9.5 - 10.0	< 2.4	0.862
FTASB-12	8.0 - 10.0	< 2.5	0.969
FTASB-13	2.5 - 4.5	< 2.6	1.076
FTASB-14	4.5 - 6.5	< 2.3	0.756
FTASB-15	4.5 - 6.5	< 2.3	0.756
FTASB-16	6.5 - 8.1	< 2.4	0.862
FTASB-17	4.5 - 6.5	< 2.2	0.649
HMW-10	2.0 - 4.0	< 2.4	0.862
HMW-11	2.0 - 4.0	< 2.4	0.862
HMW-11	6.0 - 8.0	< 2.6	1.076
HMW-12	1.5 - 3.0	< 2.4	0.862
HMW-12	4.5 - 6.0	< 2.4	0.862
HMW-13	2.0 - 4.0	< 2.4	0.862
HMW-13	8.0 - 10.0	< 2.3	0.756

H-12

254



LEGEND:

- Chromium (mg/kg)

LN(Data) Passed the Coefficient of Skewness Test of Normality Indicating the Data are Lognormal. Probability Plot is Detects-Only. 7.0% ND. NDs/2 were included in UBC calculation.

Upper Background Concentration: **7.7 mg/kg**
Based on LN(Data) mean + 1.645 Standard Deviations
LN (Data) Mean: 1.2527 SD: 0.4792

Total 63 samples, of which 57 data points were used for UBC and 53 for Probality Plot.
One data point, HMW-13 (31.7),is a statistical outlier.
By ASTM Designation E178-75, 1975.
5% significance level.
Five data points, BH-10 (12.80), BH-11 (4.16), BH-13 (2.84), BH-13 (9.10) and FTASB-11 (4.8), are rejected due to being outliers in other metals data sets.

Distribution of Background Chromium
in Soils at Hunter Army Airfield

CHROMIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	
BH-10	0 - 1	12.60	1.928	Rejected
BH-10	7.5-8.5	< 3.96	0.184	
BH-11	0 - 1	4.15	0.136	Rejected
BH-11	7.5-8.5	3.96	0.184	
BH-12	0 - 1	< 5.19	0.110	
BH-12	6.5-7.5	< 3.96	0.184	
BH-13		2.84	0.451	Rejected
BH-13	0 - 1	9.10	1.044	Rejected
BH-13	6.0-7.5	< 3.96	0.184	
HSB-1	8 - 10	0.78	0.944	
HSB-2	3 - 5	3.49	0.296	
HSB-3	6 - 8	3.85	0.210	
HSB-4	2 - 4	5.87	0.272	
HSB-5	5 - 8	1.93	0.669	
HSB-6	8 - 10	2.39	0.559	
HS-1	0 - 1	5.61	0.210	
HS-2	3 - 4	2.81	0.459	
HS-3	0 - 1	5.88	0.275	
HS-4	3 - 4	5.51	0.186	
HS-10	0 - 1	3.55	0.282	
HS-11	3.5 - 4	2.16	0.614	
HS-12	0 - 1	3.02	0.408	
HS-13	3.5 - 4	2.44	0.547	
HS-14	5.5 - 6.5	2.22	0.600	
HS-18	0 - 1	3.68	0.251	
HS-19	3.5 - 4	3.98	0.179	
HS-7	0 - 1	4.97	0.057	
HS-8	3 - 5	2.80	0.461	
HS-9	7.5 - 8.5	1.94	0.666	
HS-15	0 - 1	5.29	0.134	
HS-16	3 - 4	6.10	0.327	

All Data w/DLs	
Mean	4.729524
Std. Error	0.527314
Median	3.96
Mode	3.96
Std. Dev.	4.185428
Variance	17.5178
Kurtosis	28.39077
Skewness	4.767239
Range	30.92
Minimum	0.78
Maximum	31.7
Sum	297.96
Count	63
Crit. Val.	3.044

Data (-Outliers +ND/2)	LN (Data)
1.98	0.683097
3.96	1.376244
2.595	0.953587
1.98	0.683097
1.98	0.683097
0.78	-0.24846
3.49	1.249902
3.85	1.348073
5.87	1.769855
1.93	0.65752
2.39	0.871293
5.61	1.724551
2.81	1.033184
5.88	1.771557
5.51	1.706565
3.55	1.266948
2.16	0.770108
3.02	1.105257
5.51	1.706565
2.44	0.891998
3.55	1.266948
2.22	0.797507
2.16	0.770108
3.68	1.302913
3.02	1.105257
3.98	1.381282
2.44	0.891998
4.97	1.60342
2.22	0.797507
2.8	1.029619
3.68	1.302913
1.94	0.662688
3.98	1.381282
5.29	1.665818
4.97	1.60342
6.1	1.808289
2.80	1.029619
2.86	1.050822
1.94	0.662688
3	1.098612
5.29	1.665818
5.1	1.629241
6.10	1.808289
2.4	0.875469

LN Data	
Mean	1.252719
Std. Error	0.063466
Median	1.266948
Mode	0.683097
Std. Dev.	0.479155
Variance	0.229589
Kurtosis	1.36858
Skewness	0.057575
Range	2.936309
Minimum	-0.24846
Maximum	2.687847
Sum	71.405
Count	57

LN data	Txx for outlier
2.549445	2.142766
1.376244	0.007909
1.425515	0.097567
1.376244	0.007909
1.646734	0.500115
1.376244	0.007909
1.043804	0.597027
2.208274	1.521942
1.376244	0.007909
-0.24846	2.948543
1.249902	0.221994
1.348073	0.043353
1.769855	0.724156
0.65752	1.299943
0.871293	0.910942
1.724551	0.641717
1.033184	0.616351
1.771557	0.727254
1.706565	0.608988
1.266948	0.190976
0.770108	1.095067
1.105257	0.485202
0.891998	0.873266
0.797507	1.04521
1.302913	0.125531
1.381282	0.017076
1.60342	0.421297
1.029619	0.622839
0.662688	1.290538
1.665818	0.534843
1.808289	0.794094

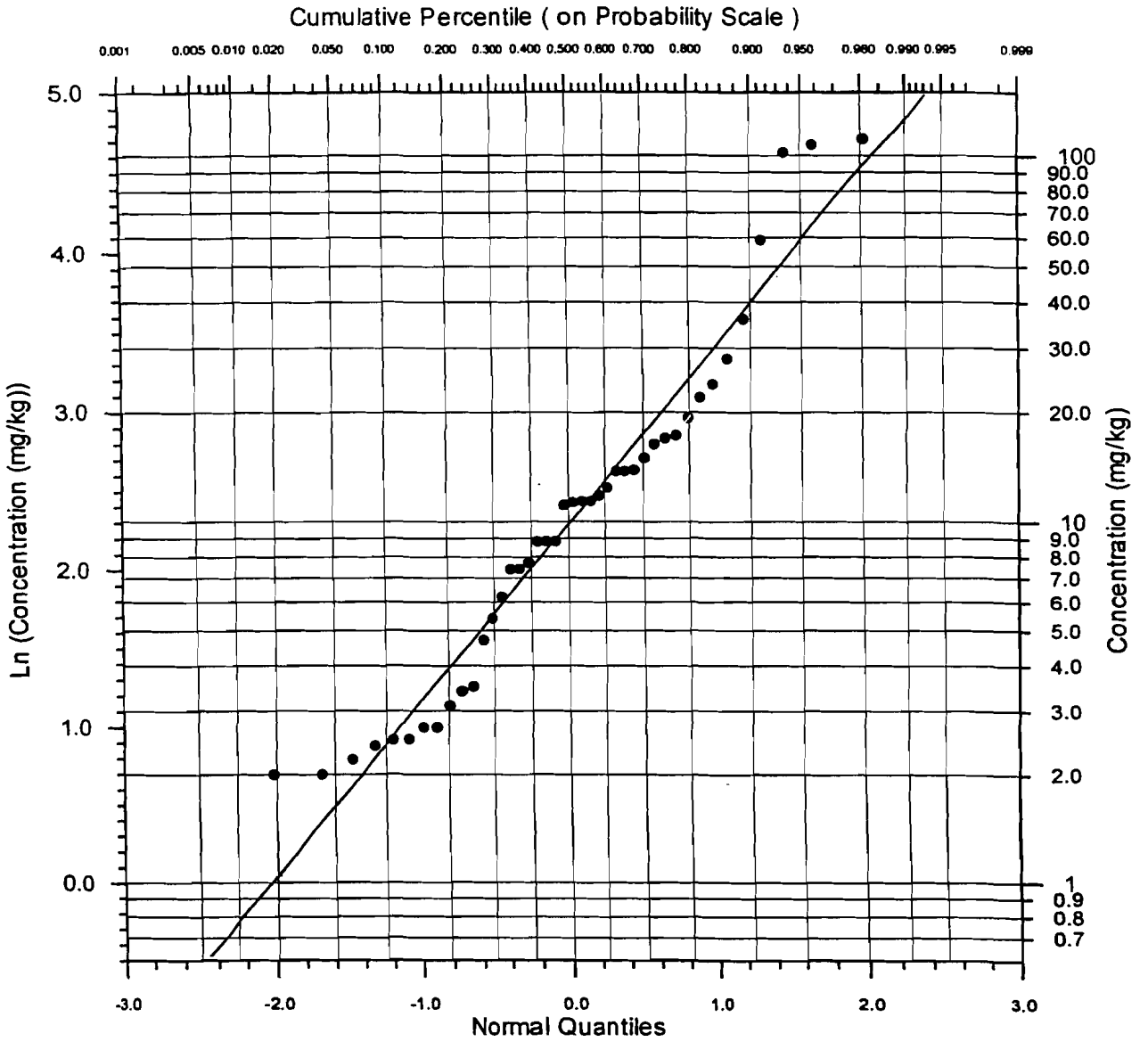
Column1		
Mean	1.371898	0.007909
Standard E	0.069236	0.597027
Median	1.376244	1.521942
Mode	1.376244	0.007909
Standard D	0.549546	2.948543
Sample Va	0.302	0.221994
Kurtosis	3.390369	0.043353
Skewness	0.799956	0.724156
Range	3.704778	1.299943
Minimum	-0.24846	0.910942
Maximum	3.456317	0.641717
Sum	86.42956	0.616351
Count	63	0.727254

H-14

216

CHROMIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic		Data (-Outliers +ND/2)	LN (Data)	LN data	Txx for outlier
HS-17	6 - 7	2.86	0.447		14.7	2.687847	1.050822	0.584257
FTASB-04	0.5 - 1.0	3.0	0.413		4.6	1.526056	1.098612	0.497293
FTASB-06	0.5 - 1.0	5.10	0.089		5.7	1.740466	1.629241	0.468283
FTASB-09	0.5 - 1.0	2.4	0.557		4.4	1.481605	0.875469	0.903344
FTASB-10	0.5 - 1.0	14.7	2.382		4.1	1.410987	2.687847	2.394614
FTASB-11	0.5 - 1.0	4.8	0.017	Rejected	3.4	1.223775	1.568616	0.357965
FTASB-12	0.5 - 1.0	4.6	0.031		4.7	1.547563	1.526056	0.28052
FRASB-13	0.5 - 2.5	5.7	0.232		7.7	2.04122	1.740466	0.670679
FTASB-14	0.5 - 2.5	4.4	0.079		3.6	1.280934	1.481605	0.199632
FTASB-15	0.5 - 2.5	4.1	0.150		2.4	0.875469	1.410987	0.07113
FTASB-16	0.5 - 2.5	3.4	0.318		2.2	0.788457	1.223775	0.269536
FTASB-17	0.5 - 2.5	4.7	0.007		5.5	1.704748	1.547563	0.319655
HMW-10	0.0 - 2.0	7.7	0.710		2.1	0.741937	2.04122	1.217956
HMW-12	1.5 - 3.0	3.6	0.270		2.7	0.993252	1.280934	0.165526
FTASB-04	9.0 - 10.5	2.4 J	0.557		2.5	0.916291	0.875469	0.903344
FTASB-06	8.5 - 10.5	2.2 J	0.604		4.4	1.481605	0.788457	1.061678
FTASB-09	6.0 - 7.0	5.5	0.184		4.7	1.547563	1.704748	0.605683
FTASB-10	9.1 - 10.4	2.1 J	0.628		2.6	0.955511	0.741937	1.14633
FTASB-11	9.5 - 10.0	2.7 J	0.485		3.7	1.308333	0.993252	0.689016
FTASB-12	8.0 - 10.0	2.5 J	0.533		2.1	0.741937	0.916291	0.829061
FTASB-13	2.5 - 4.5	4.4 J	0.079		3.3	1.193922	1.481605	0.199632
FTASB-14	4.5 - 6.5	4.7	0.007		8.1	2.091864	1.547563	0.319655
FTASB-15	4.5 - 6.5	2.6 JQ	0.509		7.5	2.014903	0.955511	0.757692
FTASB-16	6.5 - 8.1	3.7 JQ	0.246		3.6	1.280934	1.308333	0.115668
FTASB-17	4.5 - 6.5	2.1 JQ	0.628		4.6	1.526056	0.741937	1.14633
HMW-10	2.0 - 4.0	3.3 JQ	0.342		3	1.098612	1.193922	0.323859
HMW-11	2.0 - 4.0	8.1	0.805				2.091864	1.310112
HMW-11	6.0 - 8.0	7.5	0.662				2.014903	1.170067
HMW-12	1.5 - 3.0	3.6 JQ	0.270				1.280934	0.165526
HMW-12	4.5 - 6.0	4.6 J	0.031				1.526056	0.28052
HMW-13	2.0 - 4.0	3.0 JQ	0.413				1.098612	0.497293
HMW-13	8.0 - 10.0	31.7	6.444	Outlier			3.456317	3.792986



LEGEND:

- Lead (mg/kg)

LN (Data) Passed The Coefficient of Skewness Test of Normality Indicating the data are lognormal. Probability Plot is Detects-Only. 25% ND. Aitchison's Adjustment used for UBC calculation.

Upper Background Concentration: **53 mg/kg**
Based on LN (Data) Adjusted Mean + 1.645 Adjusted Standard Deviations.
LN (Data) Adjusted Mean: 1.7158 SD: 1.3668

Total of 62 samples, of which 56 data points were used for UBC and 42 for Probability Plot.
Three Data Points, BH-11 (1163.00), BH-13 (1179.00) and BH-13 (1185.00), are statistical outliers.
By ASTM Designation E178-75, 1975.
5% significance level.
Three data points, BH-10 (645.00), FTASB-11 (15.0), and HWM-13 (3.2),
are rejected due to being outliers in other metals data sets.

Distribution of Background Lead
in Soils at Hunter Army Airfield

LEAD

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	
BH-10	0 - 1	645.00	2.148	Rejected
BH-10	7.5-8.5	35.9	0.174	
BH-11	0 - 1	1163.00	4.124	Outlier
BH-11	7.5-8.5	NRQ		
BH-12	0 - 1	102	0.078	
BH-12	6.5-7.5	19.30	0.238	
BH-13		1179.00	4.185	Outlier
BH-13	0 - 1	1185.00	4.208	Outlier
BH-13	6.0-7.5	13.80	0.259	
HSB-1	8 - 10	< 5.26	0.291	
HSB-2	3 - 5	< 5.71	0.290	
HSB-3	6 - 8	< 5.97	0.289	
HSB-4	2 - 4	< 5.81	0.289	
HSB-5	5 - 8	7.40	0.283	
HSB-6	8 - 10	< 5.97	0.289	
HS-1	0 - 1	28.00	0.205	
HS-2	3 - 4	< 7.62	0.282	
HS-3	0 - 1	17.30	0.245	
HS-4	3 - 4	8.82	0.278	
HS-10	0 - 1	7.39	0.283	
HS-11	3.5 - 4	< 7.28	0.284	
HS-12	0 - 1	< 6.90	0.285	
HS-13	3.5 - 4	< 7.29	0.284	
HS-14	5.5 - 6.5	< 7.27	0.284	
HS-18	0 - 1	< 6.70	0.286	
HS-19	3.5 - 4	< 7.31	0.284	
HS-7	0 - 1	23.90	0.220	
HS-8	3 - 5	8.83	0.278	
HS-9	7.5 - 8.5	< 7.16	0.284	
HS-15	0 - 1	13.80	0.259	
HS-16	3 - 4	107.00	0.097	

All Data [W] /DLs		Detects-only Data	LN (Detects-only data)	*LN Detects-only Data*	
		35.9	3.580737		
		102	4.624973		
Mean	81.65452	19.3	2.960105	Mean	2.287776
Std. Error	33.30281	13.8	2.624669	Std. Error	0.166591
Median	7.66	7.4	2.00148	Median	2.415874
Mode	13.8	28	3.332205	Mode	2.624669
Std. Dev.	262.2266	17.3	2.850707	Std. Dev.	1.079635
Variance	68762.79	8.82	2.177022	Variance	1.165612
Kurtosis	13.68489	7.39	2.000128	Kurtosis	-0.078331
Skewness	3.839575	23.9	3.173878	Skewness	0.474948
Range	1183	8.83	2.178155	Range	4.016383
Minimum	2	13.8	2.624669	Minimum	0.693147
Maximum	1185	107	4.672829	Maximum	4.70953
Sum	5062.58	2.7	0.993252	Sum	96.0866
Count	62	15	2.70805	Count	42
Crit. Val.	3.037	4.7	1.547563		
		111	4.70953		
		11.4	2.433613		
		7.7	2.04122		
		11.4	2.433613		
		13.9	2.631889		
		3.4	1.223775		
		12.4	2.517696		
		17	2.833213		
		2.5	0.916291		
		3.5	1.252763		
		2.4	0.875469		
		59	4.077537		
		11.1	2.406945		
		6.2	1.824549		
		11.3	2.424803		

LN data	Test Statistic for LN data		Txx for outlier
6.46925			2.675076
3.580737			0.735288
7.058758			3.070961
	Column1		1.669364
4.624973			1.436547
2.960105	Mean	2.485829	0.318501
7.072422	Standard E	0.189114	3.080137
7.077498	Median	2.035998	3.083546
2.624669	Mode	2.624669	0.093238
1.660131	Standard D	1.489087	0.554499
1.742219	Sample Va	2.217381	0.499373
1.786747	Kurtosis	3.196304	0.46947
1.759581	Skewness	1.750325	0.487714
2.00148	Range	6.384351	0.325266
1.786747	Minimum	0.693147	0.46947
3.332205	Maximum	7.077498	0.568385
2.030776	Sum	154.1214	0.305592
2.850707	Count	62	0.245034
2.177022			0.20738
2.000128			0.326174
1.985131			0.336245
1.931521			0.372246
1.986504			0.335323
1.983756			0.337168
1.902108			0.391999
1.989243			0.333483
3.173878			0.462061
2.178155			0.206619
1.96851			0.347407
2.624669			0.093238
4.672829			1.468685

LEAD

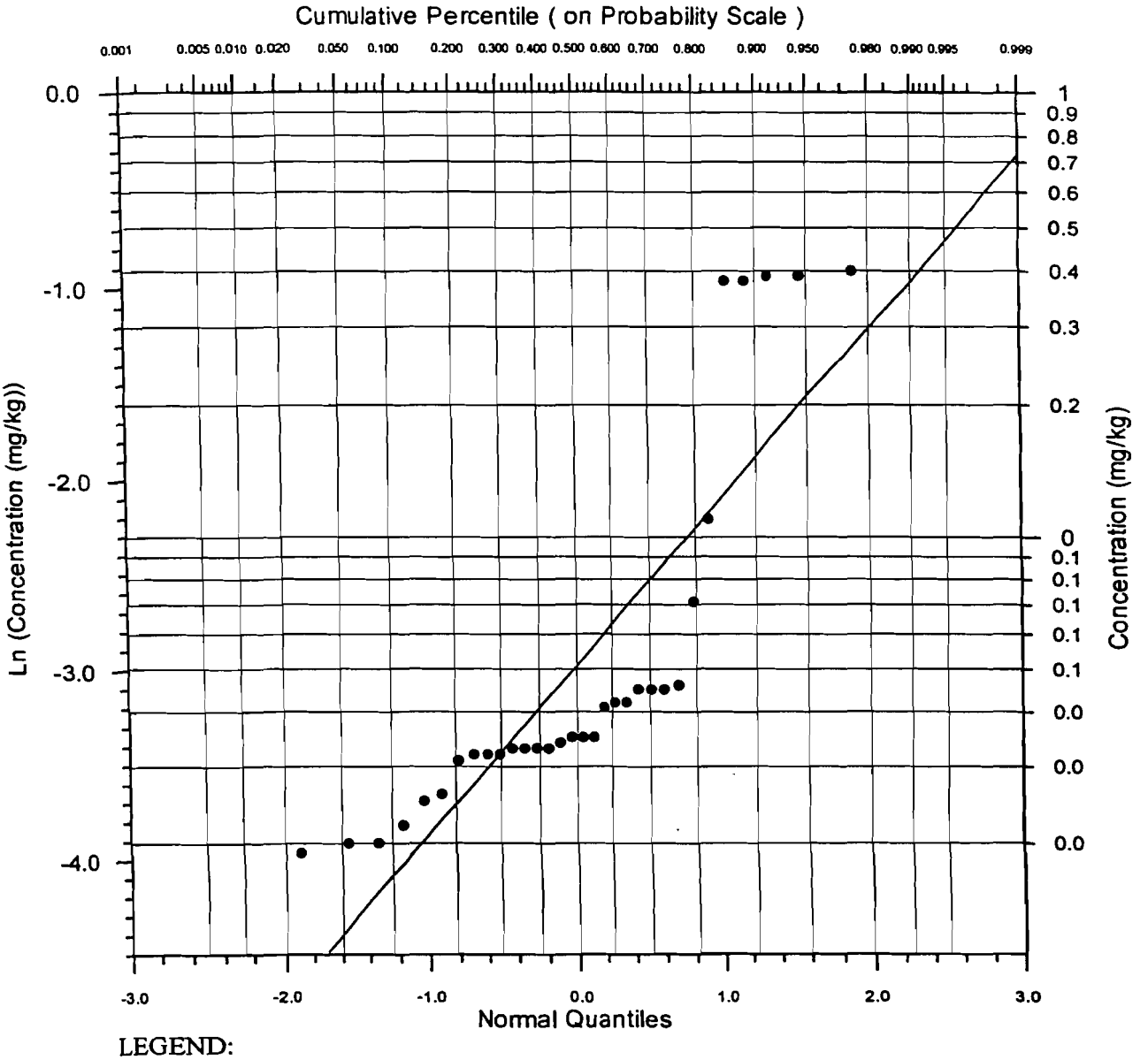
Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	
HS-17	6 - 7	< 7.19	0.284	
FTASB-04	0.5 - 1.0	2.7	0.301	
FTASB-06	0.5 - 1.0	15	0.254	
FTASB-09	0.5 - 1.0	4.7	0.293	
FTASB-10	0.5 - 1.0	111	0.112	
FTASB-11	0.5 - 1.0	16	0.254	Rejected
FTASB-12	0.5 - 1.0	11.4	0.268	
FRASB-13	0.5 - 2.5	7.7	0.282	
FTASB-14	0.5 - 2.5	11.4	0.268	
FTASB-15	0.5 - 2.5	13.9	0.258	
FTASB-16	0.5 - 2.5	3.4	0.298	
FTASB-17	0.5 - 2.5	12.4	0.264	
HMW-10	0.0 - 2.0	17	0.247	
HMW-12	1.5 - 3.0	2.5	0.302	
FTASB-04	9.0 - 10.5	3.5	0.298	
FTASB-06	8.5 - 10.5	2.4	0.302	
FTASB-09	6.0 - 7.0	59	0.086	
FTASB-10	9.1 - 10.4	11.1	0.269	
FTASB-11	9.5 - 10.0	6.2	0.288	
FTASB-12	8.0 - 10.0	11.3	0.268	
FTASB-13	2.5 - 4.5	22	0.227	
FTASB-14	4.5 - 6.5	8.8	0.278	
FTASB-15	4.5 - 6.5	5.4	0.291	
FTASB-16	6.5 - 8.1	3.1	0.300	
FTASB-17	4.5 - 6.5	2	0.304	
HMW-10	2.0 - 4.0	11.8	0.266	
HMW-11	2.0 - 4.0	2.7	0.301	
HMW-11	6.0 - 8.0	2.2	0.303	
HMW-12	1.5 - 3.0	2.5	0.302	
HMW-12	4.5 - 6.0	2	0.304	
HMW-13	2.0 - 4.0	16.4	0.249	
HMW-13	8.0 - 10.0	32	0.299	Rejected

Detects-only Data	LN (Detects-only data)
22	3.091042
8.8	2.174752
5.4	1.686399
3.1	1.131402
2	0.693147
11.8	2.4681
2.7	0.993252
2.2	0.788457
2.5	0.916291
2	0.693147
16.4	2.797281

AITCHISON'S ADJUSTMENT FOR NONDETECTS

Mean (Detect-Only)	2.288	
Std. Dev. (Detect-Only)	1.080	
Total no. of samples	56	
Number of NDs	14	
Adjusted Mean	1.716	mg/kg log-transformed
Adjusted Std. Dev.	1.367	mg/kg log-transformed
ubc	3.964201	
exp ubc	52.67815	

LN data	Test Statistic for LN data: Txx for outlier
1.972691	0.344599
0.993252	1.002344
2.70805	0.149233
1.547563	0.630095
4.70953	1.493332
2.70805	0.149233
2.433613	0.035065
2.04122	0.298578
2.433613	0.035065
2.631889	0.098087
1.223775	0.847535
2.517696	0.021401
2.833213	0.233287
0.916291	1.054027
1.252763	0.828068
0.875469	1.081441
4.077537	1.068915
2.406945	0.052975
1.824549	0.444084
2.424803	0.040982
3.091042	0.406433
2.174752	0.208905
1.686399	0.536859
1.131402	0.909568
0.693147	1.203879
2.4681	0.011906
0.993252	1.002344
0.788457	1.139874
0.916291	1.054027
0.693147	1.203879
2.797281	0.209157
1.163151	0.888247



LEGEND:

- Mercury (mg/kg)

The Data Failed all Tests of Normality.
Probability Plot is Detects-Only. 44% NDs.

Upper Background Concentration: **0.39 mg/kg**
The maximum observed value, 0.40mg/kg, was not used for the UBC,as it was from a sample location that exceeded the UBC for another parameter. Based on non-parametric analysis, the UBC was set equal to the next highest value detected.
5% Significance Level and 98% Expected Coverage.

Total of 63 samples, of which 57 data points were used for UBC and 32 for Probability Plot.
One Data Point, BH-13 (0.79), is a statistical outlier.
By ASTM Designation E178-75, 1975.
5% Significance Level.
Five data points, BH-10 (0.40), BH-11 (0.38), BH-13 (0.38), FTASB-11 (0.034), and HWM-13 (0.03), are rejected due to being outliers in other metals data sets.

Distribution of Background Mercury
in Soils at Hunter Army Airfield

MERCURY

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic		All Data w/ DLs	
BH-10	0 - 1	0.40	1.986	Rejected		
BH-10	7.5-8.5	0.39	1.915			
BH-11	0 - 1	0.38	1.844	Rejected	Mean	0.119063
BH-11	7.5-8.5	0.38	1.844		Std. Error	0.017824
BH-12	0 - 1	0.40	1.986		Median	0.09
BH-12	6.5-7.5	0.38	1.844		Mode	0.1
BH-13		0.79	4.743	Outlier	Std. Dev.	0.141471
BH-13	0 - 1	0.38	1.844	Rejected	Variance	0.020014
BH-13	6.0-7.5	0.39	1.915		Kurtosis	7.759826
HSB-1	8 - 10	< 0.10	0.135		Skewness	2.585037
HSB-2	3 - 5	< 0.11	0.064		Range	0.771
HSB-3	6 - 8	< 0.11	0.064		Minimum	0.019
HSB-4	2 - 4	< 0.11	0.064		Maximum	0.79
HSB-5	5 - 8	< 0.12	0.007		Sum	7.501
HSB-6	8 - 10	< 0.12	0.007		Count	63
HS-1	0 - 1	< 0.09	0.205		Crit. Val.	3.044
HS-2	3 - 4	< 0.10	0.135			
HS-3	0 - 1	< 0.10	0.135			
HS-4	3 - 4	< 0.10	0.135			
HS-10	0 - 1	< 0.09	0.205			
HS-11	3.5 - 4	< 0.10	0.135			
HS-12	0 - 1	< 0.09	0.205			
HS-13	3.5 - 4	< 0.09	0.205			
HS-14	5.5 - 6.5	< 0.10	0.135			
HS-18	0 - 1	< 0.09	0.205			
HS-19	3.5 - 4	< 0.10	0.135			
HS-7	0 - 1	< 0.10	0.135			
HS-8	3 - 5	< 0.10	0.135			
HS-9	7.5 - 8.5	< 0.09	0.205			
HS-15	0 - 1	< 0.09	0.205			
HS-16	3 - 4	< 0.09	0.205			
HS-17	6 - 7	< 0.09	0.205			
FTASB-04	0.5 - 1.0	0.02	0.700			
FTASB-06	0.5 - 1.0	0.035	0.594			
FTASB-09	0.5 - 1.0	0.025	0.665			
FTASB-10	0.5 - 1.0	0.042	0.545			
FTASB-11	0.5 - 1.0	0.024	0.601	Rejected		
FTASB-12	0.5 - 1.0	0.042	0.545			
FRASB-13	0.5 - 2.5	0.045	0.524			
FTASB-14	0.5 - 2.5	0.032	0.615			
FTASB-15	0.5 - 2.5	0.026	0.658			
FTASB-16	0.5 - 2.5	0.019	0.707			
FTASB-17	0.5 - 2.5	0.045	0.524			
HMW-10	0.0 - 2.0	0.046	0.516			

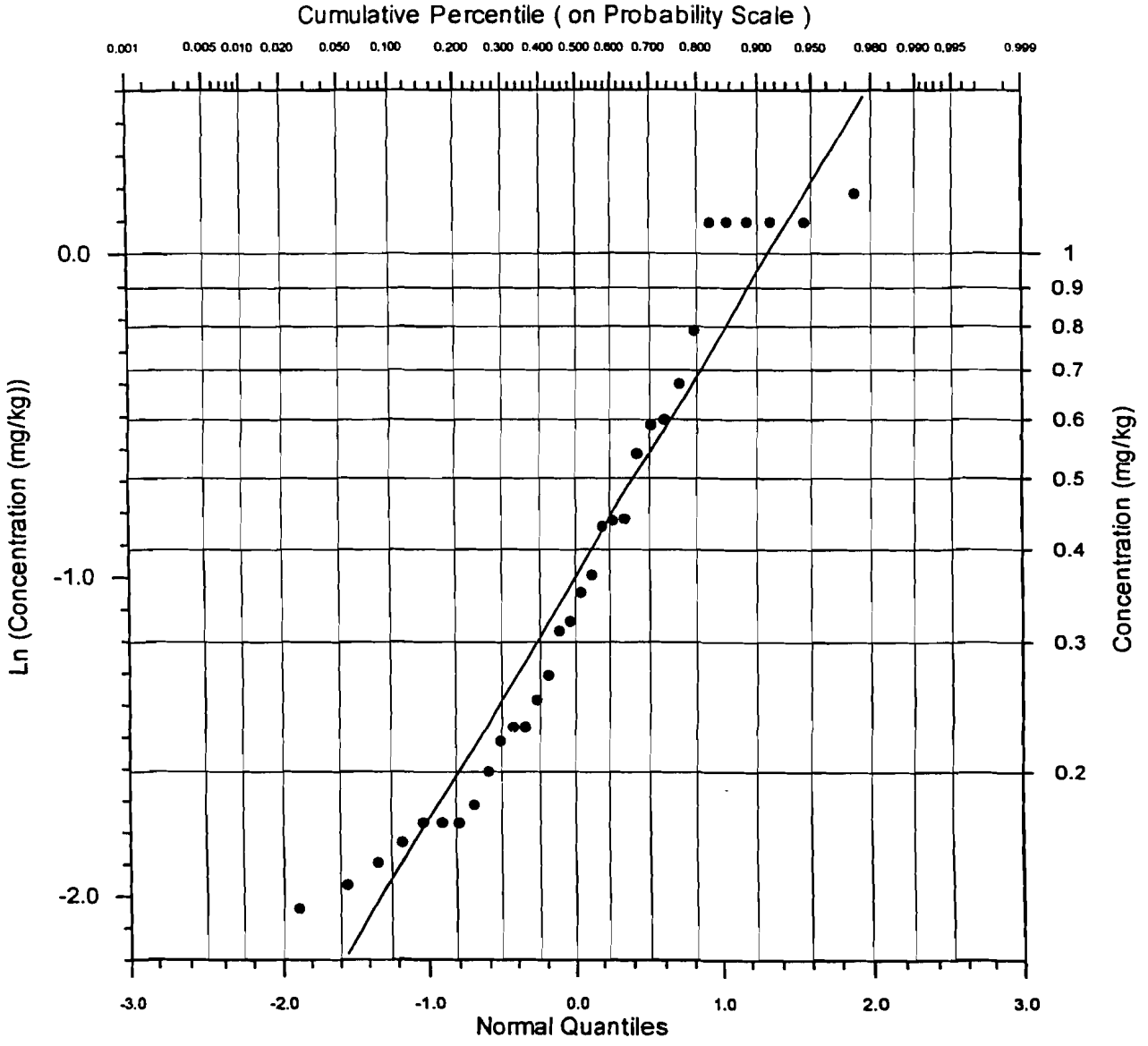
Test Statistic for LN data

LN data			Txx for outlier
-0.916291			1.847174
-0.941609			1.819113
-0.967584			1.790323
-0.967584	*Column1*		1.790323
-0.916291			1.847174
-0.967584	Mean	-2.582898	1.790323
-0.235722	Standard E	0.113672	2.601478
-0.967584	Median	-2.407946	1.790323
-0.941609	Mode	-2.302585	1.819113
-2.302585	Standard D	0.902247	0.310683
-2.207275	Sample Va	0.814049	0.416319
-2.207275	Kurtosis	-0.194112	0.416319
-2.207275	Skewness	0.630629	0.416319
-2.120264	Range	3.727594	0.512758
-2.120264	Minimum	-3.963316	0.512758
-2.407946	Maximum	-0.235722	0.193907
-2.302585	Sum	-162.7226	0.310683
-2.302585	Count	63	0.310683
-2.302585			0.310683
-2.407946			0.193907
-2.302585			0.310683
-2.407946			0.193907
-2.407946			0.193907
-2.302585			0.310683
-2.407946			0.193907
-2.302585			0.310683
-2.302585			0.310683
-2.302585			0.310683
-2.407946			0.193907
-2.407946			0.193907
-2.407946			0.193907
-2.407946			0.193907
-3.912023			1.473128
-3.352407			0.852881
-3.688879			1.225808
-3.170086			0.650806
-3.381395			0.885009
-3.170086			0.650806
-3.101093			0.574338
-3.442019			0.952202
-3.649659			1.182338
-3.963316			1.529979
-3.101093			0.574338
-3.079114			0.549978

MERCURY

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	LN data	Test Statistic for LN data Txx for outlier
HMW-12	1.5 - 3.0	0.035	0.594	-3.352407	0.852881
FTASB-04	9.0 - 10.5	0.022 J	0.686	-3.816713	1.367491
FTASB-06	8.5 - 10.5	< 0.13	0.077	-2.040221	0.601473
FTASB-09	6.0 - 7.0	0.033 J	0.608	-3.411248	0.918097
FTASB-10	9.1 - 10.4	0.033 J	0.608	-3.411248	0.918097
FTASB-11	9.5 - 10.0	< 0.12	0.007	-2.120264	0.512758
FTASB-12	8.0 - 10.0	0.02 J	0.700	-3.912023	1.473128
FTASB-13	2.5 - 4.5	0.071 JQ	0.340	-2.645075	0.068914
FTASB-14	4.5 - 6.5	0.041 JQ	0.552	-3.194183	0.677514
FTASB-15	4.5 - 6.5	0.045	0.524	-3.101093	0.574338
FTASB-16	6.5 - 8.1	0.031	0.622	-3.473768	0.987391
FTASB-17	4.5 - 6.5	0.11	0.064	-2.207275	0.416319
HMW-10	2.0 - 4.0	0.033	0.608	-3.411248	0.918097
HMW-11	2.0 - 4.0	0.034	0.601	-3.381395	0.885009
HMW-11	6.0 - 8.0	0.032	0.615	-3.442019	0.952202
HMW-12	1.5 - 3.0	0.035	0.594	-3.352407	0.852881
HMW-12	4.5 - 6.0	0.032	0.615	-3.442019	0.952202
HMW-13	2.0 - 4.0	0.033	0.608	-3.411248	0.918097
HMW-13	8.0 - 10.0	0.03	0.630 Rejected	-3.506558	1.023733

L-71



LEGEND:

- Selenium (mg/kg)

LN(Data) Passed The Filliben Test of NormalityIndicating the Data are Lognormal.
Probability Plot is Detects-Only. 44% NDs. Aitchison's Adjustment used for UBC calculation.

Upper Background Concentration: **1.9 mg/kg**
LN(Data) Adjusted mean + 1.645 Adjusted Standard Deviations.
LN(Data) Adjusted Mean: -0.561 SD: 0.735.

Total of 63 samples, of which 57 data points were used for UBC and 32 for Probability Plot.
No Data Points are statistical outliers.
By ASTM Designation E178-75, 1975.
5% Significance Level.
Six data points, BH-10 (<0.20), BH-11 (<0.20), BH-13 (0.22), BH-13(0.33), FTASB-11 (0.28), and HWM-13 (0.23), are rejected due to being outliers in other metals data sets.

Distribution of Background Selenium
in Soils at Hunter Army Airfield

SELENIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic
BH-10	0 - 1	< 0.20	0.676
BH-10	7.5-8.5	< 0.20	0.676
BH-11	0 - 1	< 0.20	0.676
BH-11	7.5-8.5	< 0.20	0.676
BH-12	0 - 1	0.79	1.486
BH-12	6.5-7.5	0.60	0.789
BH-13		0.22	0.603
BH-13	0 - 1	0.33	0.200
BH-13	6.0-7.5	< 0.20	0.676
HSB-1	8 - 10	< 0.42	0.130
HSB-2	3 - 5	< 0.45	0.240
HSB-3	6 - 8	< 0.47	0.313
HSB-4	2 - 4	< 0.46	0.276
HSB-5	5 - 8	0.67	1.046
HSB-6	8 - 10	< 0.47	0.313
HS-1	0 - 1	< 0.27	0.420
HS-2	3 - 4	< 0.29	0.347
HS-3	0 - 1	< 0.28	0.383
HS-4	3 - 4	< 0.29	0.347
HS-10	0 - 1	< 0.26	0.456
HS-11	3.5 - 4	< 0.28	0.383
HS-12	0 - 1	< 0.27	0.420
HS-13	3.5 - 4	< 0.28	0.383
HS-14	5.5 - 6.5	< 0.28	0.383
HS-18	0 - 1	< 0.26	0.456
HS-19	3.5 - 4	< 0.28	0.383
HS-7	0 - 1	< 0.28	0.383
HS-8	3 - 5	< 0.28	0.383
HS-9	7.5 - 8.5	< 0.27	0.420
HS-15	0 - 1	< 0.27	0.420
HS-16	3 - 4	< 0.26	0.456
HS-17	6 - 7	< 0.28	0.383
FTASB-04	0.5 - 1.0	0.35	0.127
FTASB-06	0.5 - 1.0	0.438	0.196
FTASB-09	0.5 - 1.0	0.59	0.753
FTASB-10	0.5 - 1.0	0.32	0.237
FTASB-11	0.5 - 1.0	0.28	0.383
FTASB-12	0.5 - 1.0	0.27	0.420
FRASB-13	0.5 - 2.5	0.17	0.786
FTASB-14	0.5 - 2.5	1.1	2.622
FTASB-15	0.5 - 2.5	1.1	2.622
FTASB-16	0.5 - 2.5	1.1	2.622
FTASB-17	0.5 - 2.5	1.1	2.622

All Data w/DLs	
Mean	0.384571
Std. Error	0.034383
Median	0.28
Mode	0.28
Std. Dev.	0.272904
Variance	0.074477
Kurtosis	2.695918
Skewness	1.891535
Range	1.07
Minimum	0.13
Maximum	1.2
Sum	24.228
Count	63
Crit. Val.	3.044

Detects-only Data	LN (Detects-only data)	*LN Detects-only Data*		LN data
0.790	-0.235722			-1.609438
0.600	-0.510826			-1.609438
0.670	-0.400478	Mean	-1.000075	-1.609438
0.350	-1.049822	Std. Error	0.127877	-1.609438
0.438	-0.825536	Median	-1.094628	-0.235722
0.590	-0.527633	Mode	0.09531	-0.510826
0.320	-1.139434	Std. Dev.	0.723383	-1.514128
0.270	-1.309333	Variance	0.523283	-1.108663
0.170	-1.771957	Kurtosis	-1.227867	-1.609438
1.100	0.09531	Skewness	0.313246	-0.867501
1.100	0.09531	Range	2.222542	-0.798508
1.100	0.09531	Minimum	-2.040221	-0.755023
1.100	0.09531	Maximum	0.182322	-0.776529
0.200	-1.609438	Sum	-32.0024	-0.400478
0.230	-1.469676	Count	32	-0.755023
0.170	-1.771957			-1.309333
0.150	-1.89712			-1.237874
0.430	-0.84397			-1.272966
0.140	-1.966113			-1.237874
0.130	-2.040221			-1.347074
0.180	-1.714798			-1.272966
0.310	-1.171183			-1.309333
0.170	-1.771957			-1.272966
0.160	-1.832581			-1.272966
1.200	0.182322			-1.347074
1.100	0.09531			-1.272966
0.220	-1.514128			-1.272966
0.250	-1.386294			-1.272966
0.370	-0.994252			-1.309333
0.230	-1.469676			-1.309333
0.540	-0.616186			-1.347074
0.440	-0.820981			-1.272966
				-1.049822
				-0.825536
				-0.527633
				-1.139434
				-1.272966
				-1.309333
				-1.771957
				0.09531
				0.09531
				0.09531
				0.09531

Test Statistic for LN data		Txx for outlier
		0.857429
		0.857429
		0.857429
Column1		0.857429
		1.608772
Mean	-1.131835	1.114885
Standard E	0.070178	0.686321
Median	-1.272966	0.041602
Mode	-1.272966	0.857429
Standard D	0.557017	0.474555
Sample Va	0.310268	0.598416
Kurtosis	0.261177	0.676484
Skewness	0.907926	0.637874
Range	2.222542	1.312991
Minimum	-2.040221	0.676484
Maximum	0.182322	0.318658
Sum	-71.30563	0.190369
Count	63	0.253368
		0.190369
		0.386412
		0.253368
		0.318658
		0.253368
		0.253368
		0.386412
		0.253368
		0.253368
		0.253368
		0.318658
		0.318658
		0.386412
		0.253368
		0.147237
		0.549892
		1.084712
		0.013642
		0.253368
		0.318658
		1.149196
		2.203067
		2.203067
		2.203067
		2.203067

AITCHISON'S ADJUSTMENT FOR NONDETECTS

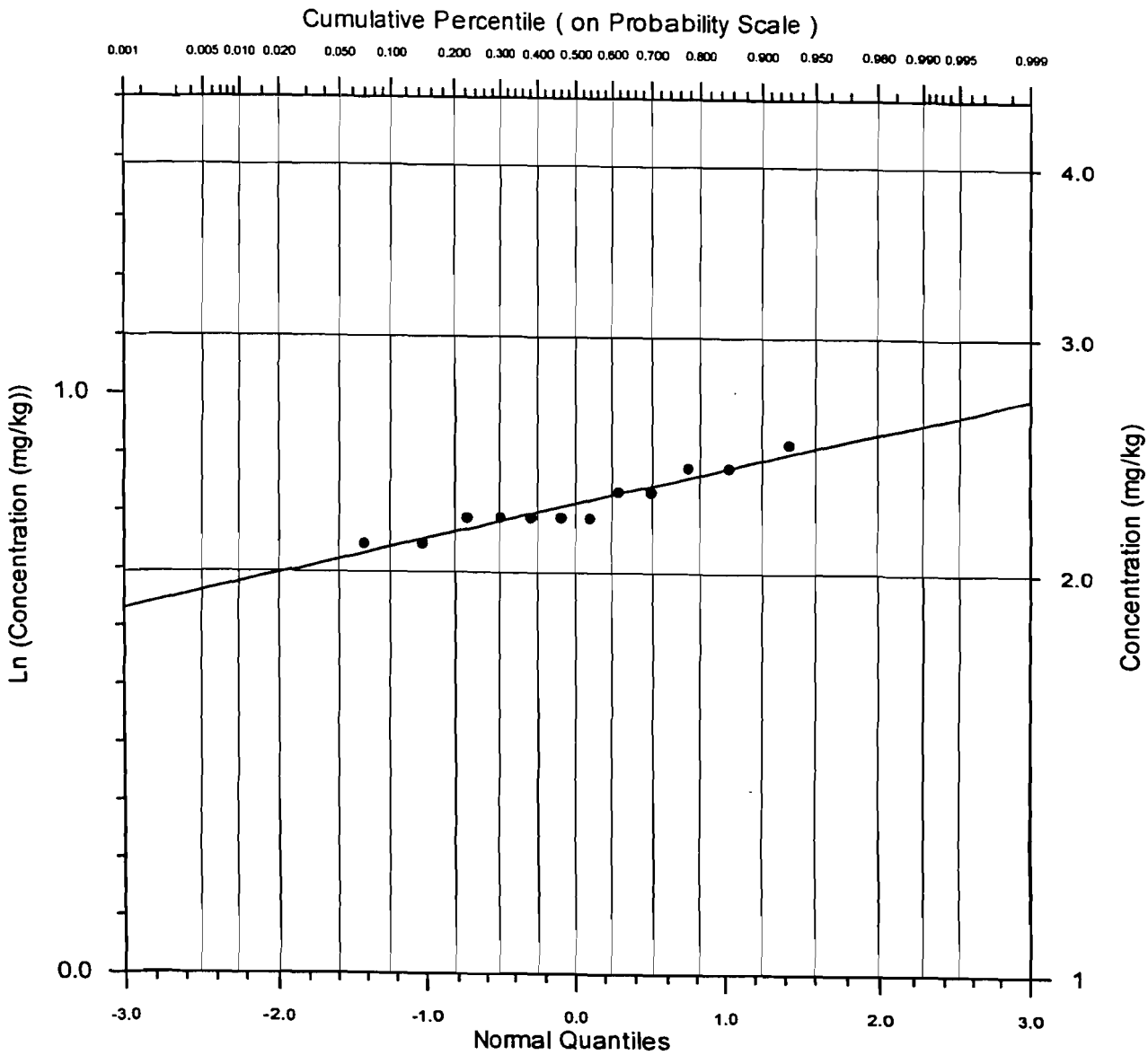
Mean (Detect-Only)	-1.000	
Std. Dev. (Detect-Only)	0.723	
Total no. of samples	57	
Number of NDs	25	
Adjusted Mean	**-0.561**	mg/kg log-transformed
Adjusted Std. Dev.	**0.735**	mg/kg log-transformed

SELENIUM

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic
HMW-10	0.0 - 2.0	0.2	0.676
HMW-12	1.5 - 3.0	0.23	0.566
FTASB-04	9.0 - 10.5	0.17 J	0.786
FTASB-06	8.5 - 10.5	0.15 J	0.860
FTASB-09	6.0 - 7.0	0.43 J	0.166
FTASB-10	9.1 - 10.4	0.14 J	0.896
FTASB-11	9.5 - 10.0	0.13 J	0.933
FTASB-12	8.0 - 10.0	0.18 J	0.750
FTASB-13	2.5 - 4.5	0.31 JQ	0.273
FTASB-14	4.5 - 6.5	0.17	0.786
FTASB-15	4.5 - 6.5	0.16	0.823
FTASB-16	6.5 - 8.1	1.2	2.988
FTASB-17	4.5 - 6.5	1.1	2.622
HMW-10	2.0 - 4.0	0.22	0.603
HMW-11	2.0 - 4.0	0.25	0.493
HMW-11	6.0 - 8.0	0.37	0.053
HMW-12	1.5 - 3.0	0.23	0.566
HMW-12	4.5 - 6.0	0.54	0.570
HMW-13	2.0 - 4.0	0.44	0.203
HMW-13	8.0 - 10.0	0.23	0.566

	Detects-only Data	LN (Detects-only data)	LN data	Test Statistic for LN data: Txx for outlier
ubc	0.6477564		-1.609438	0.857429
exp ubc	1.9112479		-1.469676	0.606518
			-1.771957	1.149196
			-1.89712	1.373898
			-0.84397	0.516798
			-1.966113	1.49776
			-2.040221	1.630804
			-1.714798	1.046581
			-1.171183	0.07064
			-1.771957	1.149196
			-1.832581	1.258034
			0.182322	2.359277
			0.09531	2.203067
			-1.514128	0.686321
			-1.386294	0.456824
			-0.994252	0.247
			-1.469676	0.606518
			-0.616186	0.925734
			-0.820981	0.558071
			-1.469676	0.606518

H-24



LEGEND:

- Silver (mg/kg)

Due to high percentage of non-detects the data can not be validly normalized.
Probability Plot is Detects-Only. 79% NDs.

Upper Background Concentration: **2.6 mg/kg**
Based on non-parametric analysis, UBC is set equal to the maximum observed value.
5% Significance Level and 98% expected coverage.

Total of 63 samples, of which 57 data points were used for UBC and 12 for Probability Plot.
One Data Point, BH-13 (<7.98), is determined to be a statistical outlier.
By ASTM Designation E178-75, 1975.
5% significance level.
Five data points, BH-10 (<3.99), BH-11 (<3.99), BH-13 (<3.99), FTASB-11 (2.2), and HMW-13 (<2.3), are rejected due to being outliers in other metals data sets.

Distribution of Background Silver
in Soils at Hunter Army Airfield

SILVER

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic
BH-10	0 - 1	< 3.99	1.468595
BH-10	7.5-8.5	< 3.99	1.468595
BH-11	0 - 1	< 3.99	1.468595
BH-11	7.5-8.5	< 3.99	1.468595
BH-12	0 - 1	< 3.99	1.468595
BH-12	6.5-7.5	< 3.99	1.468595
BH-13		< 7.98	4.51297
BH-13	0 - 1	< 3.99	1.468595
BH-13	6.0-7.5	< 3.99	1.468595
HSB-1	8 - 10	< 0.60	1.117978
HSB-2	3 - 5	< 0.65	1.079828
HSB-3	6 - 8	< 0.68	1.056938
HSB-4	2 - 4	< 0.66	1.072198
HSB-5	5 - 8	< 0.73	1.018788
HSB-6	8 - 10	< 0.68	1.056938
HS-1	0 - 1	< 0.78	0.980638
HS-2	3 - 4	< 0.86	0.919598
HS-3	0 - 1	< 0.81	0.957748
HS-4	3 - 4	< 0.83	0.942488
HS-10	0 - 1	< 0.77	0.988268
HS-11	3.5 - 4	< 0.82	0.950118
HS-12	0 - 1	< 0.77	0.988268
HS-13	3.5 - 4	< 0.82	0.950118
HS-14	5.5 - 6.5	< 0.82	0.950118
HS-18	0 - 1	< 0.75	1.003528
HS-19	3.5 - 4	< 0.82	0.950118
HS-7	0 - 1	< 0.81	0.957748
HS-8	3 - 5	< 0.80	0.965378
HS-9	7.5 - 8.5	< 0.80	0.965378
HS-15	0 - 1	< 0.76	0.995898
HS-16	3 - 4	< 0.78	0.980638
HS-17	6 - 7	< 0.81	0.957748
FTASB-04	0.5 - 1.0	2.2	0.102823
FTASB-06	0.5 - 1.0	2.1	0.026523
FTASB-09	0.5 - 1.0	2.5	0.331724
FTASB-10	0.5 - 1.0	2.3	0.179124
FTASB-11	0.5 - 1.0	2.2	0.102823
FTASB-12	0.5 - 1.0	2.4	0.255424
FRASB-13	0.5 - 2.5	2.2	0.102823
FTASB-14	0.5 - 2.5	2.2	0.102823
FTASB-15	0.5 - 2.5	2.2	0.102823
FTASB-16	0.5 - 2.5	2.1	0.026523
FTASB-17	0.5 - 2.5	2.2	0.102823
HMW-10	0.0 - 2.0	2.3	0.179124

H-22

All Data "/DLs	
Mean	2.065238
Std. Error	0.165122
Median	2.2
Mode	2.4
Std. Dev.	1.310614
Variance	1.717709
Kurtosis	5.285285
Skewness	1.585052
Range	7.38
Minimum	0.6
Maximum	7.98
Sum	130.11
Count	63
Crit. Val.	3.044

LN data	Test Statistic for LN data		Txx for outlier
1.383791			1.311066
1.383791			1.311066
1.383791			1.311066
1.383791	*Column1*		1.311066
1.383791			1.311066
1.383791	Mean	0.527662	1.311066
2.076938	Standard E	0.08227	2.372545
1.383791	Median	0.788457	1.311066
1.383791	Mode	0.875469	1.311066
-0.510826	Standard D	0.653002	1.590329
-0.430783	Sample Va	0.426411	1.467753
-0.385662	Kurtosis	-1.136188	1.398656
-0.415515	Skewness	-0.139387	1.444372
-0.314711	Range	2.587764	1.290001
-0.385662	Minimum	-0.510826	1.398656
-0.248461	Maximum	2.076938	1.188548
-0.150823	Sum	33.24273	1.039025
-0.210721	Count	63	1.130753
-0.18633			1.0934
-0.261365			1.208308
-0.198451			1.111962
-0.261365			1.208308
-0.198451			1.111962
-0.198451			1.111962
-0.287682			1.24861
-0.198451			1.111962
-0.210721			1.130753
-0.223144			1.149776
-0.223144			1.149776
-0.274437			1.228326
-0.248461			1.188548
-0.210721			1.130753
0.788457			0.399379
0.741937			0.328138
0.916291			0.595141
0.832909			0.467451
0.788457			0.399379
0.875469			0.532627
0.788457			0.399379
0.788457			0.399379
0.788457			0.399379
0.741937			0.328138
0.788457			0.399379
0.832909			0.467451

892

SILVER

Sample ID	Sample Depth (feet)	Concentration (mg/kg)	Outlier Test Statistic	LN data	Test Statistic for LN data	Txx for outlier
HMW-12	1.5 - 3.0	2.4	0.255424	0.875469		0.532627
FTASB-04	9.0 - 10.5	< 2.4	0.255424	0.875469		0.532627
FTASB-06	8.5 - 10.5	< 2.6	0.408024	0.955511		0.655203
FTASB-09	6.0 - 7.0	< 2.3	0.179124	0.832909		0.467451
FTASB-10	9.1 - 10.4	< 2.4	0.255424	0.875469		0.532627
FTASB-11	9.5 - 10.0	< 2.4	0.255424	0.875469		0.532627
FTASB-12	8.0 - 10.0	< 2.5	0.331724	0.916291		0.595141
FTASB-13	2.5 - 4.5	< 2.6	0.408024	0.955511		0.655203
FTASB-14	4.5 - 6.5	< 2.3	0.179124	0.832909		0.467451
FTASB-15	4.5 - 6.5	< 2.3	0.179124	0.832909		0.467451
FTASB-16	6.5 - 8.1	< 2.4	0.255424	0.875469		0.532627
FTASB-17	4.5 - 6.5	< 2.2	0.102823	0.788457		0.399379
HMW-10	2.0 - 4.0	< 2.4	0.255424	0.875469		0.532627
HMW-11	2.0 - 4.0	< 2.4	0.255424	0.875469		0.532627
HMW-11	6.0 - 8.0	< 2.6	0.408024	0.955511		0.655203
HMW-12	1.5 - 3.0	< 2.4	0.255424	0.875469		0.532627
HMW-12	4.5 - 6.0	< 2.4	0.255424	0.875469		0.532627
HMW-13	2.0 - 4.0	< 2.4	0.255424	0.875469		0.532627
HMW-13	8.0 - 10.0	< 2.3	0.179124	0.832909		0.467451

H-27

Georgia Department of Natural Resources 770
205 Butler Street, SE, Suite 1462, Atlanta, Georgia 30334
Lonice C. Barrett, Commissioner
Environmental Protection Division
Harold F. Reheis, Director
404/657-8600

May 8, 2001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Col. Gregory V. Stanley
Department of the Army
1550 Cochran Drive
Fort Stewart, GA 31314

Re: Response to 3/19/01 Meeting Letter
Hunter Army Airfield
HSI #10105

Dear Col. Stanley:

The Georgia Environmental Protection Division (EPD) has received your compliance status report (CSR) response letter dated March 5, 2001 and your April 16, 2001 correspondence following up on our March 19, 2001 meeting regarding the above referenced site. EPD was asked to address issues raised during our meeting pertaining to calculated background concentrations, the methodology used to calculate the background concentrations, and future sampling locations:

1. Background Concentrations - The proposed background concentrations presented on page 5 of CSR response are acceptable to EPD. It should be noted that although Table 2 of Appendix III should not be used for determining site-specific background concentrations, it is useful for comparative purposes in that most background concentrations will be below those levels.

2. Statistical Calculations – The statistical methods described can be used for determining background concentrations; however, they do not necessarily apply to all sites due to variations in site-specific data. The method used to determine multiple outliers in a dataset should be stated in the revised CSR and included in an appendix along with the other statistical methods used in the CSR.

3. Proposed Sampling Locations – The sample locations shown in Figure 1 of the CSR response surrounding SB-30 appear sufficient to delineate the site with the following exceptions. Two more sample locations (in addition to SB-45) are needed to delineate the southern boundary near SB-35. One location is needed to the west of SB-45 and south of SB-36. The other location to be added is to the east of SB-45 across Lightning Road. The purpose of proposed sampling locations SB-47 and SB-48 is unclear and needs to be explained before EPD can comment on them.

For specific answers to questions concerning risk assessment calculations and ecological evaluations, you may contact Michelle Burgess or Ahmet Bulbakaya at (404) 656-7802. Please contact David Brownlee of the Hazardous Site Response Program at (404) 657-8600 if you have questions regarding this letter.

Sincerely,

Jane Hendricks
Unit Coordinator
Hazardous Sites Response Program

c: Melanie Little

File: Site #10105

S:\RDRIVE\DAVIDB\CSR\Hunter Army Airfield Fire Training Area\March 19 Meeting Letter Response.doc

REVISED GA EPD TABLE, REVISED VOLATILIZATION FACTORS (VF)
REVISED RISK REDUCTION STANDARDS FOR RESPONSE TO COMMENT

Regulated Substance in Soil	Type RRS	Previous Hunter AAF Criteria (mg/kg)	Updated Hunter AAF Criteria (mg/kg) *	GaEPD Criteria (mg/kg)	Comment
Benzene	Type 2 Type 4	1.4 3.9	14 69	5 ?	Unable to recreate EPD values. Per prior discussion with Dr. Cliff Opdyke, LAW is using mid-range value of oral cancer slope factor. Recently (February 2001), Michelle Burgess confirmed this decision.
Benzo(k)fluoranthene	Type 2	120	125	14	Unable to recreate EPD value.
Chrysene	Type 2	1200	1250	125	Unable to recreate EPD value.
? Dinitrotoluene	Type 1	0.66	0.66	100	See written response under Comment 11c.
Ethylbenzene	Type 2	550	3340	1562	Unable to recreate EPD value.
Naphthalene	Type 1	93	100	100	Updated VF resulted in agreement with EPD value.
Trichlorofluoromethane	Type 1	150	200	200	Agree with EPD.
Regulated Substance in GW	**Type RRS**	**Previous Hunter AAF Criteria (mg/kg)**	**Updated Hunter AAF Criteria (mg/kg) ***	**GaEPD Criteria (mg/L)**	**Comments**
Benzene	Type 4	0.014	NA	0.009	LAW used mid-range of oral cancer slope factor.
Lead	Type 4	0.015	NA	Background	LAW used Type 1 criteria for all Types.

*Updated soil criteria use revised volatilization factors.
NA Not applicable

TABLE 1

VOLATILIZATION FACTOR CALCULATION

	MW	Di	Dei	K_d	H	K_{as}	Y	VF
	g/mol	cm^2/sec	cm^2/sec	cm^3/g	atm-m^3/mol	g/cm^3	cm^2/sec	m^3/kg
2,4-Dinitrotoluene	182.14	2.03E-01	0.0163	1.38	9.26E-08	2.75E-06	9.11E-09	1.51E+06
2-Butanone	72.12	0.0872	0.0070	0.038	5.59E-05	6.03E-02	8.48E-05	1.55E+04
Acenaphthene	154.21	0.0421	0.0034	141.6	1.55E-04	4.49E-05	3.08E-08	8.23E+05
Acenaphthylene	152.2	0.05441461	0.0044	62	1.10E-04	7.27E-05	6.46E-08	5.69E+05
Acetone	58.1	0.124	0.0100	0.012	3.88E-05	1.33E-01	2.61E-04	8.71E+03
Anthracene	178.24	0.0324	0.0026	590	6.50E-05	4.52E-06	2.39E-09	2.96E+06
Benzene	78.11	0.088	0.0071	1.18	5.55E-03	1.93E-01	2.66E-04	8.52E+03
Benzo(a)anthracene	228.3	0.051	0.0041	7960	3.35E-06	1.73E-08	1.44E-11	3.82E+07
Benzo(a)pyrene	252.32	0.043	0.0035	20400	1.13E-06	2.27E-09	1.59E-12	1.15E+08
Benzo(b)fluoranthene	252.32	0.0226	0.0018	24600	1.11E-04	1.85E-07	6.82E-11	1.75E+07
Benzo(g,h,i)perylene	276.34	0.04742653	0.0038	77000	1.40E-07	7.45E-11	5.77E-14	6.02E+08
Benzo(k)fluoranthene	252.32	0.0226	0.0018	24600	8.29E-07	1.38E-09	5.09E-13	2.03E+08
bis(2-Ethylhexyl)phthalate	390.6	0.0351	0.0028	302000	1.02E-07	1.38E-11	7.93E-15	1.62E+09
Chlorobenzene	112.56	0.073	0.0059	4.38	3.70E-03	3.46E-02	4.10E-05	2.24E+04
Chloromethane	50.48	0.13	0.0104	0.13	8.80E-03	2.78E+00	3.76E-03	1.51E+03
Chrysene	228.3	0.0248	0.0020	7960	9.46E-05	4.87E-07	1.97E-10	1.03E+07
Dibenzo(a,h)anthracene	278.36	0.0202	0.0016	76000	1.47E-08	7.93E-12	2.61E-15	2.83E+09
Dibutyl phthalate	278.4	0.0438	0.0035	678	9.38E-10	5.67E-11	4.05E-14	7.18E+08
cis-1,2-Dichloroethene	96.94	0.0736	0.0059	0.71	4.08E-03	2.36E-01	2.70E-04	8.40E+03
Dieldrin	380.91	0.0125	0.0010	428	1.51E-05	1.45E-06	2.95E-10	8.42E+06
Diethyl phthalate	222.24	0.0256	0.0021	5.76	4.50E-07	3.20E-06	1.34E-09	3.95E+06
Ethylbenzene	106.17	0.075	0.0060	7.26	7.88E-03	4.45E-02	5.40E-05	1.95E+04
Fluoranthene	202.26	0.0302	0.0024	2140	1.61E-05	3.08E-07	1.52E-10	1.17E+07
Fluorene	166.22	0.0363	0.0029	276	6.36E-05	9.45E-06	5.60E-09	1.93E+06
Indeno(1,2,3-cd)pyrene	276.34	0.019	0.0015	69400	1.60E-06	9.45E-10	2.93E-13	2.67E+08
Methoxychlor	345.66	0.0156	0.0013	1954	1.58E-05	3.32E-07	8.44E-11	1.57E+07
Methylene Chloride	84.93	0.101	0.0081	0.234	2.19E-03	3.84E-01	5.87E-04	5.54E+03
Naphthalene	128.18	0.059	0.0047	40	4.83E-04	4.95E-04	4.77E-07	2.09E+05
Phenanthrene	178.24	0.0574	0.0046	590	2.30E-05	1.60E-06	1.50E-09	3.74E+06
Pyrene	202.26	0.0272	0.0022	2100	1.10E-05	2.15E-07	9.53E-11	1.48E+07
Tetrachloroethylene	165.83	0.072	0.0058	3.1	1.84E-02	2.43E-01	2.72E-04	8.35E+03

Prepared by: EFC 2/15/01
Checked by: LM 16/01

TABL

VOLATILIZATION FACTOR CALCULATION

	MW	Di	Dei	K_d	H	K_{as}	Y	VF
	g/mol	cm^2/sec	cm^2/sec	cm^3/g	atm-m^3/mol	g/cm^3	cm^2/sec	m^3/kg
Toluene	92.14	0.087	0.0070	3.64	6.64E-03	7.48E-02	1.05E-04	1.39E+04
trans-1,2-Dichloroethene	96.94	0.0707	0.0057	1.05	9.39E-03	3.67E-01	3.94E-04	6.78E+03
Trichlorofluoromethane	137.37	0.087	0.0070	2.4	9.70E-02	1.66E+00	1.76E-03	2.58E+03
Xylenes	106.17	0.078	0.0063	7.72	6.73E-03	3.57E-02	4.52E-05	2.14E+04

Equation is from USEPA, 1991b.

VF = Volatilization Factor (m^3/kg)

$$VF = (LS \times V \times DH) / (A) * \frac{(3.14 \times Y \times T)^{1/2}}{(2 \times Dei \times P \times Kas \times 0.001)}$$

$$Y = \frac{Dei \times P}{P + (p(1-P)/Kas)}$$

H-32

LS = Length of side of contaminated area = 45 m (default)
V = wind speed in mixing zone = 2.25 m/s (default)
DH = diffusion height = 2 m
A = area of contamination = 20,250,000 cm^2 (default)
T = exposure interval = 790000000 s = 25 yrs
Dei = effective diffusivity (cm^2/s) = Chemical Specific
P = air filled soil porosity (unitless) = 0.35 (default)
Kas = soil/air partition coefficient (g soil/cm^3 air) = Chemical Specific
Conversion factor = 0.001 kg/g
p = True soil density or particulate density = 2.65 g/cm^3 (default)

NC = Not Calculable

Prepared by: EFC 2/15/01
Checked by: LMS 2/16/01

775

Hunter AAF, Savannah, Georgia
Summary of Soil Risk Reduction Standards

Substance	Type 1	Type 2	Subsurface Type 3	Overall Type 3	Overall Type 4 RRS
2,4-Dinitrotoluene	6.60E-01	1.34E+01	6.60E-01	6.60E-01	8.42E+01
2-Butanone	2.00E+02	4.26E+03	2.00E+02	2.00E+02	2.25E+04
Acenaphthene	3.00E+02	4.69E+03	3.00E+02	3.00E+02	1.23E+05
Acenaphthylene	1.30E+02	2.35E+03	1.30E+02	1.30E+02	6.13E+04
Acetone	4.00E+02	7.30E+04	4.00E+02	4.00E+02	2.04E+05
Anthracene	5.00E+02	2.35E+04	5.00E+02	5.00E+02	6.13E+05
Benzene	5.00E-01	1.42E+01	5.00E-01	5.00E-01	6.87E+01
Benzo(a)anthracene	5.00E+00	1.25E+01	5.00E+00	5.00E+00	7.84E+01
Benzo(a)pyrene	1.64E+00	1.25E+00	1.64E+00	1.64E+00	7.84E+00
Benzo(b)fluoranthene	5.00E+00	1.25E+01	5.00E+00	5.00E+00	7.84E+01
Benzo(ghi)perylene	5.00E+02	2.35E+03	5.00E+02	5.00E+02	6.13E+04
Benzo(k)fluoranthene	5.00E+00	1.25E+02	5.00E+00	5.00E+00	7.84E+02
bis(2-Ethylhexyl) phthalate	5.00E+01	6.52E+02	5.00E+01	5.00E+01	4.09E+03
Chlorobenzene	1.00E+01	1.23E+02	1.00E+01	1.00E+01	6.43E+02
Chloromethane	3.00E-01	2.01E+01	3.00E-01	3.00E-01	3.40E+01
Chrysene	5.00E+00	1.25E+03	5.00E+00	5.00E+00	7.84E+03
DCE, trans-1,2-	1.00E+01	1.56E+03	1.00E+01	1.00E+01	4.09E+04
Dibenzo(a,h)anthracene	2.05E+00	1.25E+00	5.00E+00	5.00E+00	7.84E+00
Dibutyl phthalate	4.00E+02	7.82E+03	4.00E+02	4.00E+02	2.04E+05
Dichloroethylene, N.O.S.	5.30E-01	7.82E+02	5.30E-01	5.30E-01	2.04E+04
Dieldrin	6.60E-01	5.70E-01	6.60E-01	6.60E-01	3.58E+00
Diethyl phthalate	5.00E+02	8.26E+04	5.00E+02	5.00E+02	1.64E+06
Ethylbenzene	7.00E+01	3.34E+03	7.00E+01	7.00E+01	2.50E+04
Fluoranthene	5.00E+02	3.13E+03	5.00E+02	5.00E+02	8.18E+04
Fluorene	3.60E+02	3.13E+03	3.60E+02	3.60E+02	8.18E+04
Indeno(1,2,3-cd)pyrene	5.00E+00	1.25E+01	5.00E+00	5.00E+00	7.84E+01
Methoxychlor	1.00E+01	3.91E+02	1.00E+01	1.00E+01	1.02E+04
Methylene chloride	5.00E-01	2.55E+02	5.00E-01	5.00E-01	4.55E+02
Naphthalene	1.00E+02	1.67E+02	1.00E+02	1.00E+02	8.98E+02
Phenanthrene	1.10E+02	2.35E+03	1.10E+02	1.10E+02	6.13E+04
Pyrene	5.00E+02	2.35E+03	5.00E+02	5.00E+02	6.13E+04
Tetrachloroethene	5.00E-01	1.30E+02	5.00E-01	5.00E-01	3.87E+02
Toluene	1.00E+02	1.49E+03	1.00E+02	1.00E+02	7.94E+03
Trichlorofluoromethane	2.00E+02	5.26E+02	2.00E+02	2.00E+02	2.63E+03
Xylenes	1.00E+03	1.56E+05	1.00E+03	1.00E+03	4.09E+06

Hunter AAF, Savannah, Georgia
Type 1 and 3 Soil Calculations

SUBSTANCE	Appendix I	Type 1 GW x 100	Risk-Based Residential Type 1 NC-Type 1	Risk-Based Residential Type 1 C-Type 1	Type 1 RRS	Risk-Based Nonresidential Type 3 NC-Type 3	Risk-Based Nonresidential Type 3 C-Type 3	Subsurface Soil Type 3 RRS	Overall Soil Type 3 RRS
2,4-Dinitrotoluene	6.6E-01	5.0E-03	1.3E+03	2.2E+01	6.6E-01	4.1E+03	8.4E+01	6.6E-01	6.6E-01
2-Butanone	7.9E-01	2.0E+02	2.1E+04	ND	2.0E+02	2.3E+04	ND	2.0E+02	2.0E+02
Acenaphthene	3.0E+02	2.0E+02	3.8E+04	ND	3.0E+02	1.2E+05	ND	3.0E+02	3.0E+02
Acenaphthylene	1.3E+02	1.0E+00	1.9E+04	ND	1.3E+02	6.1E+04	ND	1.3E+02	1.3E+02
Acetone	2.7E+00	4.0E+02	2.0E+05	ND	4.0E+02	2.0E+05	ND	4.0E+02	4.0E+02
Anthracene	5.0E+02	1.0E+00	1.9E+05	ND	5.0E+02	6.1E+05	ND	5.0E+02	5.0E+02
Benzene	2.0E-02	5.0E-01	6.8E+01	5.0E+01	5.0E-01	7.3E+01	6.9E+01	5.0E-01	5.0E-01
Benzo(a)anthracene	5.0E+00	1.0E-02	ND	2.0E+01	5.0E+00	ND	7.8E+01	5.0E+00	5.0E+00
Benzo(a)pyrene	1.6E+00	2.0E-02	ND	2.0E+00	1.64E+00	ND	7.8E+00	1.64E+00	1.64E+00
Benzo(b)fluoranthene	5.0E+00	2.0E-02	ND	2.0E+01	5.0E+00	ND	7.8E+01	5.0E+00	5.0E+00
Benzo(ghi)perylene	5.0E+02	1.0E+00	1.9E+04	ND	5.0E+02	6.1E+04	ND	5.0E+02	5.0E+02
Benzo(k)fluoranthene	5.0E+00	1.0E+00	ND	2.0E+02	5.0E+00	ND	7.8E+02	5.0E+00	5.0E+00
bis(2-Ethylhexyl) phthalate	5.0E+01	6.0E-01	1.3E+04	1.1E+03	5.0E+01	4.1E+04	4.1E+03	5.0E+01	5.0E+01
Chlorobenzene	4.2E+00	1.0E+01	5.9E+02	ND	1.0E+01	6.4E+02	ND	1.0E+01	1.0E+01
Chloromethane	4.0E-02	3.0E-01	6.3E+02	2.7E+01	3.0E-01	6.6E+02	3.4E+01	3.0E-01	3.0E-01
Chrysene	5.0E+00	2.0E-02	ND	2.0E+03	5.0E+00	ND	7.8E+03	5.0E+00	5.0E+00
DCE, trans-1,2-	5.3E-01	1.0E+01	1.3E+04	ND	1.0E+01	4.1E+04	ND	1.0E+01	1.0E+01
Dibenzo(a,h)anthracene	5.0E+00	3.0E-02	ND	2.0E+00	2.0E+00	ND	7.8E+00	5.0E+00	5.0E+00
Dibutyl phthalate	1.4E+01	4.0E+02	6.4E+04	ND	4.0E+02	2.0E+05	ND	4.0E+02	4.0E+02
Dichloroethylene, N.O.S.	5.3E-01		6.4E+03	ND	5.3E-01	2.0E+04	ND	5.3E-01	5.3E-01
Dieldrin	6.6E-01	2.0E-03	3.2E+01	9.3E-01	6.6E-01	1.0E+02	3.6E+00	6.6E-01	6.6E-01
Diethyl phthalate	7.4E-01	5.0E+02	5.1E+05	ND	5.0E+02	1.6E+06	ND	5.0E+02	5.0E+02
Ethylbenzene	2.0E+01	7.0E+01	1.9E+04	ND	7.0E+01	2.5E+04	ND	7.0E+01	7.0E+01
Fluoranthene	5.0E+02	1.0E+02	2.6E+04	ND	5.0E+02	8.2E+04	ND	5.0E+02	5.0E+02
Fluorene	3.6E+02	1.0E+02	2.6E+04	ND	3.6E+02	8.2E+04	ND	3.6E+02	3.6E+02
Indeno(1,2,3-cd)pyrene	5.0E+00	4.0E-02	ND	2.0E+01	5.0E+00	ND	7.8E+01	5.0E+00	5.0E+00
Methoxychlor	1.0E+01	4.0E+00	3.2E+03	ND	1.0E+01	1.0E+04	ND	1.0E+01	1.0E+01
Methylene chloride	8.0E-02	5.0E-01	1.4E+04	3.2E+02	5.0E-01	2.0E+04	4.5E+02	5.0E-01	5.0E-01
Naphthalene	1.0E+02	2.0E+00	8.2E+02	ND	1.0E+02	9.0E+02	ND	1.0E+02	1.0E+02
Phenanthrene	1.1E+02		1.9E+04	ND	1.1E+02	6.1E+04	ND	1.1E+02	1.1E+02
Pyrene	5.0E+02	1.0E+02	1.9E+04	ND	5.0E+02	6.1E+04	ND	5.0E+02	5.0E+02
Tetrachloroethene	1.8E-01	5.0E-01	6.4E+03	1.8E+02	5.0E-01	2.0E+04	3.9E+02	5.0E-01	5.0E-01
Toluene	1.4E+01	1.0E+02	7.3E+03	ND	1.0E+02	7.9E+03	ND	1.0E+02	1.0E+02
Trichlorofluoromethane	7.0E-01	2.0E+02	2.5E+03	ND	2.0E+02	2.6E+03	ND	2.0E+02	2.0E+02
Xylenes	2.0E+01	1.0E+03	1.3E+06	ND	1.0E+03	4.1E+06	ND	1.0E+03	1.0E+03

H-34

777

Hunter AAF, Savannah, Georgia
Type 2 Soil Calculations

SUBSTANCE	Residential Child		Residential Adult		Overall
	NC-Type 2	C-Type 2	NC-Type 2	C-Type 2	Type 2 RRS
2,4-Dinitrotoluene	1.6E+02	1.3E+01	1.5E+03	2.5E+01	1.3E+01
2-Butanone	4.3E+03	ND	1.6E+04	ND	4.3E+03
Acenaphthene	4.7E+03	ND	4.4E+04	ND	4.7E+03
Acenaphthylene	2.3E+03	ND	2.2E+04	ND	2.3E+03
Acetone	7.3E+04	ND	7.3E+04	ND	7.3E+04
Anthracene	2.3E+04	ND	2.2E+05	ND	2.3E+04
Benzene	1.4E+01	4.9E+01	5.2E+01	3.9E+01	1.4E+01
Benzo(a)anthracene	ND	1.2E+01	ND	2.3E+01	1.2E+01
Benzo(a)pyrene	ND	1.2E+00	ND	2.3E+00	1.2E+00
Benzo(b)fluoranthene	ND	1.2E+01	ND	2.3E+01	1.2E+01
Benzo(ghi)perylene	2.3E+03	ND	2.2E+04	ND	2.3E+03
Benzo(k)fluoranthene	ND	1.2E+02	ND	2.3E+02	1.2E+02
bis(2-Ethylhexyl) phthalate	1.6E+03	6.5E+02	1.5E+04	1.2E+03	6.5E+02
Chlorobenzene	1.2E+02	ND	4.5E+02	ND	1.2E+02
Chloromethane	1.4E+02	2.8E+01	4.7E+02	2.0E+01	2.0E+01
Chrysene	ND	1.2E+03	ND	2.3E+03	1.2E+03
DCE, trans-1,2-	1.6E+03	ND	1.5E+04	ND	1.6E+03
Dibenzo(a,h)anthracene	ND	1.2E+00	ND	2.3E+00	1.2E+00
Dibutyl phthalate	7.8E+03	ND	7.3E+04	ND	7.8E+03
Dichloroethylene, N.O.S.	7.8E+02	ND	7.3E+03	ND	7.8E+02
Dieldrin	3.9E+00	5.7E-01	3.7E+01	1.1E+00	5.7E-01
Diethyl phthalate	6.3E+04	ND	5.8E+05	ND	6.3E+04
Ethylbenzene	3.3E+03	ND	1.6E+04	ND	3.3E+03
Fluoranthene	3.1E+03	ND	2.9E+04	ND	3.1E+03
Fluorene	3.1E+03	ND	2.9E+04	ND	3.1E+03
Indeno(1,2,3-cd)pyrene	ND	1.2E+01	ND	2.3E+01	1.2E+01
Methoxychlor	3.9E+02	ND	3.7E+03	ND	3.9E+02
Methylene chloride	2.4E+03	3.1E+02	1.2E+04	2.6E+02	2.6E+02
Naphthalene	1.7E+02	ND	6.3E+02	ND	1.7E+02
Phenanthrene	2.3E+03	ND	2.2E+04	ND	2.3E+03
Pyrene	2.3E+03	ND	2.2E+04	ND	2.3E+03
Tetrachloroethene	7.8E+02	1.3E+02	7.3E+03	1.7E+02	1.3E+02
Toluene	1.5E+03	ND	5.6E+03	ND	1.5E+03
Trichlorofluoromethane	5.3E+02	ND	1.9E+03	ND	5.3E+02
Xylenes	1.6E+05	ND	1.5E+06	ND	1.6E+05

Hunter AAF, Savannah, Georgia
Type 4 Soil Calculations

SUBSTANCE	Industrial Worker		Overall
	NC-Type 4	C-Type 4	Type 4 RRS
2,4-Dinitrotoluene	4.09E+03	8.42E+01	8.42E+01
2-Butanone	2.25E+04	ND	2.25E+04
Acenaphthene	1.23E+05	ND	1.23E+05
Acenaphthylene	6.13E+04	ND	6.13E+04
Acetone	2.04E+05	ND	2.04E+05
Anthracene	6.13E+05	ND	6.13E+05
Benzene	7.31E+01	6.87E+01	6.87E+01
Benzo(a)anthracene	ND	7.84E+01	7.84E+01
Benzo(a)pyrene	ND	7.84E+00	7.84E+00
Benzo(b)fluoranthene	ND	7.84E+01	7.84E+01
Benzo(ghi)perylene	6.13E+04	ND	6.13E+04
Benzo(k)fluoranthene	ND	7.84E+02	7.84E+02
bis(2-Ethylhexyl) phthalate	4.09E+04	4.09E+03	4.09E+03
Chlorobenzene	6.43E+02	ND	6.43E+02
Chloromethane	6.64E+02	3.40E+01	3.40E+01
Chrysene	ND	7.84E+03	7.84E+03
DCE, trans-1,2-	4.09E+04	ND	4.09E+04
Dibenzo(a,h)anthracene	ND	7.84E+00	7.84E+00
Dibutyl phthalate	2.04E+05	ND	2.04E+05
Dichloroethylene, N.O.S.	2.04E+04	ND	2.04E+04
Dieldrin	1.02E+02	3.58E+00	3.58E+00
Diethyl phthalate	1.64E+06	ND	1.64E+06
Ethylbenzene	2.50E+04	ND	2.50E+04
Fluoranthene	8.18E+04	ND	8.18E+04
Fluorene	8.18E+04	ND	8.18E+04
Indeno(1,2,3-cd)pyrene	ND	7.84E+01	7.84E+01
Methoxychlor	1.02E+04	ND	1.02E+04
Methylene chloride	2.03E+04	4.55E+02	4.55E+02
Naphthalene	8.98E+02	ND	8.98E+02
Phenanthrene	6.13E+04	ND	6.13E+04
Pyrene	6.13E+04	ND	6.13E+04
Tetrachloroethene	2.04E+04	3.87E+02	3.87E+02
Toluene	7.94E+03	ND	7.94E+03
Trichlorofluoromethane	2.63E+03	ND	2.63E+03
Xylenes	4.09E+06	ND	4.09E+06

H-36

ARCADIS
Infrastructure, environment, facilities

Imagine the result

Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP)

Fort Stewart Military Reservation and Hunter Army Airfield, Georgia

February 2009

ARCADIS

Jane Kennedy
Project Chemist

Shelley D. Gibbons
Associate Project Manager

Charles A. Bertz, PE
Senior Project Manager

Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP)

Fort Stewart Military Reservation and Hunter Army Airfield, Georgia

Prepared for:
US Army Environmental Command

Prepared by:
ARCADIS
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919.854.1282
Fax 919.854.5448

Our Ref.:
GP08HAFS.SW00

Date:
February 5, 2009

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

Table of Contents

1. Introduction **1-1**

2. Site Preparation and Mobilization Procedures **2-1**

2.1 Initial Coordination 2-1

2.2 Mobilization and Subcontractor Coordination 2-1

2.3 Utility Clearance 2-1

2.4 Site Reconnaissance 2-2

2.5 Field Operations Contingency Plans 2-2

2.6 On-Site ARCADIS Representative 2-3

2.7 Contractor Compliance and Permitting 2-3

2.8 Adherence to Technical Specifications 2-4

3. Field Investigation Procedures **3-1**

3.1 Lithologic Logging 3-1

3.2 Direct Push Borings and Sample Collection 3-2

3.2.1 Soil Sample Collection 3-2

3.2.2 Groundwater Sample Collection 3-3

3.2.3 Membrane Interface Probe Borings 3-4

3.2.4 Temporary Piezometer Installation 3-4

3.2.5 Temporary Piezometer Fluid Gauging 3-5

3.2.6 Direct Push Boring Abandonment 3-6

3.2.7 Temporary Piezometer Abandonment 3-6

3.3 Drilling Techniques 3-6

3.3.1 Hollow-Stem Auger Techniques in Soil 3-6

3.3.2 Mud Rotary Drilling 3-7

3.3.3 Rotasonic Drilling Methodology 3-8

3.4 Collection of Samples for Geotechnical and Chemical Analyses 3-9

3.4.1 Geotechnical Samples in Soil and Unconsolidated Deposits 3-9

3.4.2 Geotechnical Samples in Sediment 3-10

3.4.3 Samples for Chemical Analyses 3-11

3.5 Monitoring Well Construction 3-12

3.5.1 Shallow and Intermediate Well Construction 3-12

3.5.2 Pre-pack Screen Monitoring Well Construction 3-14

3.5.3 Monitoring Well Construction Beneath a Confining or Semi-Confining Layer 3-14

3.5.4 Borehole and Well Abandonment 3-16

3.5.5 Temporary Well Abandonment 3-16

3.5.6 Soil Boring Abandonment 3-16

3.6 Groundwater Level Measurements and Sampling 3-17

3.6.1 Groundwater Level Measurements 3-17

3.6.2 Low-Flow Groundwater Purging and Sample Collection 3-18

3.6.3 Slug Test 3-21

3.6.4 Constant Rate Pump Test 3-22

3.6.5 LNAPL Bail Down Test 3-23

3.7 Test Pit Excavations 3-24

3.8 Sediment Sampling 3-24

3.8.1 Shallow Ditch Sediment Sampling 3-24

3.8.2 Deep Ditch Sediment Sampling 3-25

3.8.3 Shallow Stream Sediment Sampling 3-27

3.9 Surface Water Sampling 3-28

3.10 Field Analytical Measurements 3-30

3.11 Quality Control Samples 3-30

3.12 Field Equipment Decontamination 3-32

3.12.1 Cleaning Materials 3-32

3.12.2 Marking and Segregation of Used Field Equipment 3-33

3.12.3 Safety Procedures to be Utilized During Cleaning Operations 3-33

3.12.4 Storage of Field Equipment and Sample Containers 3-33

3.12.5 Cleaning Procedures 3-34

3.12.5.1 Drilling and Direct Push Equipment 3-34

3.12.5.2 Teflon™, Stainless Steel, or Glass Field Sampling Equipment 3-34

3.12.5.3 Other Sampling Equipment 3-35

3.12.5.4 Trace Organic Sampling Equipment 3-35

3.12.5.5 Field Analytical Equipment and Other Field Instruments 3-36

3.12.5.6 Ice Chests and Shipping Containers 3-36

3.12.6 Disposable Materials 3-36

3.13 Characterization and Disposal of Investigative Derived Wastes 3-37

3.13.1 Soils/Sediment/Waste 3-37

3.13.2 Water 3-37

3.14 Site Survey 3-37

4. Field Documentation Procedures 4-1

4.1 Sample Designation 4-1

4.2 Field Activity Documentation 4-3

4.2.1 Utilities and Structures Checklist 4-4

4.2.2 Location Sketch 4-4

4.2.3 Boring/ Well Construction Logs 4-4

4.2.4 Water Level Measurement Form 4-4

4.2.5 Sample Key 4-4

4.2.6 Sampling Location Survey Summary 4-5

4.2.7 Water Sample Log 4-5

4.2.8 Groundwater Sampling Form 4-5

4.2.9 Well Sampling Summary 4-5

4.2.10 Water Level/Pumping Test Record 4-5

4.2.11 Soil/Sediment Sample Log 4-5

4.2.12 Soil Sampling Summary 4-6

4.2.13 Surface Water Sample Log 4-6

4.2.14 Field Instrument Calibration Form 4-6

4.2.15 Daily Log 4-6

4.2.16 Sample Label 4-7

4.2.17 Chain-of-Custody Form 4-7

4.2.18 Chain-of-Custody Seal 4-8

4.2.19 Bill of Lading 4-8

4.3 Chain-of-Custody Procedures 4-8

4.3.1 Transfer of Custody 4-9

4.3.2 Sample Preparation and Shipment 4-9

4.3.3 Laboratory Sample Receiving 4-9

5. References 5-1

Figure

3-1 Well Schematic for Prepacked Screens

Appendices

A Site-Wide QAPP

B Field Forms

- Utilities and Structures Checklist
- Location Sketch
- Boring/Well Construction Log
- Well Construction Log (Unconsolidated)
- Well Construction Log - Telescoping
- Well Development Form
- Geoprobe® Groundwater Sample Form
- Well Sampling Summary
- Water Level Measurement Form
- Water Level/Pumping Test Record
- Sample Key

- Sampling Location Survey Summary
- Soil/Sediment Sample Log
- Soil Sampling Summary
- Groundwater Sample Form
- Surface Water Sample Log
- PID Calibration Form
- Field Instrument Calibration Log
- Daily Log
- Chain-of-Custody Record

Acronyms and Abbreviations

amsl	above mean sea level
ARCADIS	ARCADIS U.S., Inc.
ASTM	American Society for Testing and Materials
bgs	below ground surface
COC	chain of custody
DPW	Department of Public Works
FID	flame ionization detector
ft	feet
GAEPD	Georgia Environmental Protection Division
gpm	gallons per minute
GPS	global positioning system
HASP	Health and Safety Plan
HSRA	Hazardous Site Response Act
IDW	investigative derived waste
MIP	membrane interface probe
mL/min	milliliters per minute
MS/MSDs	matrix spike/matrix spike duplicates
NAPL	non-aqueous phase liquid
NTUs	nephelometric turbidity units
O.D.	outside diameter
ORP	oxidation reduction potential
OCGA	Official Code of Georgia Annotated
PBC	Performance Based Contract

PCB	polychlorinated biphenyl
PID	photoionization detector
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
TCLP	Toxicity Characteristic Leaching Procedure
UPC	Utility Protection Center
USEPA	United States Environmental Protection Agency
USCS	Unified Soil Classification System
VOC	volatile organic compound

1. Introduction

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) was prepared by ARCADIS U.S., Inc. (ARCADIS) to provide field personnel with detailed instructions and procedures regarding field activities to be performed in support of Resource Conservation and Recovery Act (RCRA) and Hazardous Site Response Act (HSRA) remedial activities and to document the performance of all environmental field activities at the Fort Stewart Military Reservation and Hunter Army Airfield in Georgia.

This site-wide SAP provides a detailed description of the field investigation methodologies that will be used to complete the RCRA and HSRA remedial process at the Sites included in ARCADIS' Performance Based Contract (PBC) contract. The QAPP, included as Appendix A, presents the policies, organization, objectives, functional activities, and specific quality assurance/ quality control (QA/QC) procedures. The QA/QC procedures will be employed by ARCADIS to ensure that all technical data generated are accurate and representative, and the data will be of known and usable quality for the intended purpose. Site-specific work plans that further define the scope of activities to be performed at each individual Site will reference this plan for the general procedures to be used in completing the prescribed field activities.

ARCADIS field personnel will use the procedures described in this SAP to produce accurate, comparable, and reproducible data for reduction and evaluation. This SAP is divided into four sections. A brief description of each section is provided below:

- **Section 1, Introduction** – Summarizes the purpose and organization of the plan.

- **Section 2, Site Preparation and Mobilization Procedures** – Describes the tasks to be performed prior to mobilization to the field, including notification and coordination requirements.

- **Section 3, Field Investigation Procedures** – Presents a detailed discussion of the procedures to be used in completing the field tasks, including information on drilling, well construction, sampling, decontamination, investigation derived waste, and the site survey.

- **Section 4, Field Documentation Procedures** – Outlines the methods to be used for sample designation, chain-of-custody (COC) procedures, and field documentation.

Throughout this SAP, reference is made to standard forms and logs used by ARCADIS field personnel to record field observations and measurements. Examples of each of these forms are provided in Appendix B of this SAP.

2. Site Preparation and Mobilization Procedures

Initial project coordination, subcontractor coordination, and utility clearance activities will be conducted prior to initiating the field sampling activities. These pre-mobilization activities are discussed in the following subsections.

2.1 Initial Coordination

The Fort Stewart and Hunter Army Airfield environmental staff will be notified at least 2 weeks before the start of any field work.

2.2 Mobilization and Subcontractor Coordination

The subcontractors, including drillers, laboratories, and surveyors, will be selected and contracts will be executed in advance of beginning the field activities.

2.3 Utility Clearance

Prior to mobilization, all underground utility lines, and other underground structures will be clearly marked. ARCADIS personnel will be responsible for making certain the underground utilities and structures are located and marked. ARCADIS is responsible for submitting a utility locate request through the Georgia Utility Protection Center (UPC). UPC will accept these locate request either by phone or internet. The phone number is (800) 282-7411. The UPC web address is www.gaupc.com and click on IRTH login to make the request. In order to submit a request using the website, pre-registration will be required. The contractor must mark the boundaries of the proposed work site using either white paint, flags or stakes. Department of Public Works (DPW) will accept responsibility for accuracy of the locates pertaining to gas and fuel lines, water lines, electrical lines to include secondary electricity, airfield lighting, low voltage, fire systems, sewer lines, roof drain lines, storm drain lines, industrial waste lines, chilled water lines, high temperature water lines, irrigation systems, and DPW non-fiber computer lines. These requests will be forwarded to all utility companies with services present within the proposed work site.

Permits will be issued within 48 hours of the next business day following the receipt of the request by UPC. The permits will only be valid for 21 days and renewal requests should be submitted a minimum of 3 days prior to expiration. Requesting contractors are responsible for maintaining marks during the 21-day period. If, after acquiring a

permit, a utility is damaged during field activities, the appropriate utility company must be notified. DPW's utilities are listed above and the points of contact are:

Fort Stewart	Carletha Joyce	(912) 767-6669
HAAF	Tony West	(912) 315-5523

The contractor should be prepared to submit proof of a valid permit at that time.

ARCADIS personnel will be responsible for notifying the Fort Stewart and Hunter Army Airfield environmental office of planned intrusive activities at least 2 weeks prior to the initiation of field activities. Upon arrival at the installation, the field operations leader will check the proposed drilling, sampling, and trenching locations for marked underground utilities, other underground structures, and above-ground pipe racks or power lines. A Utilities and Structures Checklist (Appendix B) will be completed by the Field Operations Leader for each area to be sampled prior to commencement of field activities. A copy of the completed checklist will be retained in the ARCADIS project file.

2.4 Site Reconnaissance

Prior to startup of drilling or sampling activities in a particular area, field personnel will conduct a brief site reconnaissance to determine if any problems with the drilling or sampling locations will be encountered. The sampling locations will be sketched on the Location Sketch Form (Appendix B). In addition, at the start of field activities at each Site, the field personnel will notify the Fort Stewart and Hunter Army Airfield environmental staff of the work schedule, and sampling and drilling locations.

2.5 Field Operations Contingency Plans

If during the field program, any unforeseen problems or conditions are encountered that require re-evaluation or corrective action, such as, but not limited to, extreme precipitation events, site emergencies that require evacuation of field personnel, changes in site conditions, security problems, loss of power or communications, or community relations problems, the following contingencies will be put into place:

- For any problem or condition encountered by the field team, the team personnel will immediately notify the Fort Stewart and Hunter Army Airfield environmental staff and/or the ARCADIS Project Manager for direction or approval of corrective action.

- If the problem or condition requires downtime at the site and re-evaluation of any site conditions, assumptions made about the site conditions, or plans prepared for the site, the field team will contact the ARCADIS Project Manager and the Fort Stewart and Hunter Army Airfield environmental staff for consultation.

- If after consultation, the problem or condition continues, the field program will remain on hold until direction is received from the Fort Stewart and Hunter Army Airfield representative and/or ARCADIS Project Manager. The field program will not continue until the problem is resolved.

- Any time these contingency procedures are implemented, the following will be documented in the daily log of activities:

  - Problem or condition encountered;
  - Personnel involved;
  - Management personnel contacted;
  - Corrective actions taken, if any; and
  - Dates and times involved.

2.6 On-Site ARCADIS Representative

A qualified ARCADIS representative will be on-site during all probing, drilling and sample collection activities. The ARCADIS representative will have in their possession a copy of the Site-Specific Work Plan and the associated Site-Wide Work Plans, including the SAP, QAPP, and Health and Safety Plan (HASP). The Site-Wide Work Plans encompass work at all Fort Stewart and Hunter Army Airfield PBC sites. The ARCADIS representative will also have on-site any equipment, tools, references, and documentation necessary to collect, describe, and document the information generated from the field activities.

2.7 Contractor Compliance and Permitting

The contractors selected for this project shall comply with any and all installation, local, state, and federal health and safety regulations and requirements. The contractors are responsible, per ARCADIS' contractual agreements, for securing and/or complying with permits required by state or local authorities. The selected contractors will have the necessary license(s) or certifications required to perform such work in Georgia.

2.8 Adherence to Technical Specifications

All work performed by ARCADIS or a contractor, whether it be drilling, sampling, equipment decontamination or other related activities will be in accordance with the procedures described in this SAP, and properly and completely documented by the on-site ARCADIS representative on forms provided herein (Appendix B).

3. Field Investigation Procedures

A detailed discussion of the field procedures that will be employed to complete the field tasks is provided in the following sections. All field procedures are in accordance with the United States Environmental Protection Agency (USEPA) Field Branches Quality System Technical Procedures (USEPA, 2008).

All soil, groundwater, and surface water samples collected will be analyzed by a certified Georgia Laboratory as listed in the Site-Wide QAPP (Appendix A). Samples will be preserved according to the selected analytical method. Specific method preservation requirements, size and type of sample containers to be used, and holding times for each parameter are listed in the Site-Wide QAPP (Appendix A).

3.1 Lithologic Logging

The lithology of the soil and bedrock samples collected will be described through visual observations of the soil/bedrock cores using the Unified Soil Classification System (USCS) and/or the American Society for Testing and Materials (ASTM) International Standard D 2488 for Description and Identification of Soils. The Boring/Well Construction Log (Appendix B) will be used to record lithologic logging observations. The following logging sequence will be used for the description of unconsolidated materials:

- Describe major soil type and percentage;
- Describe composition of the soil;
- Describe the moisture, texture, and color of the soil;
- Document other geologic observations such as bedding characteristics, structure and orientation, and primary and secondary permeability/porosity (if possible); and
- Document observations on drilling progress including sample interval loss and recovery.

3.2 Direct Push Borings and Sample Collection

Direct-push soil sampling consists of hydraulically pushing or driving a small diameter, hollow steel rod to a target depth and collecting a soil or groundwater sample. The equipment necessary for the collection of samples using the direct push technique is mounted on a regular van or truck for ease of mobility. The steel probe rods, 3 feet (ft) to 4 ft in length, are threaded for easy connection and have tight seals to provide a continuous length of rod. The rods are hydraulically driven or hammered to target depths. The steel rods can be driven to depths of up 150 ft through unconsolidated sediments.

3.2.1 Soil Sample Collection

The following procedures will be used during the collection of soil samples from direct push borings:

1. Record borehole location and intended sample depth intervals on the Boring/Well Construction Log (Appendix B).
2. Line the 3-ft or 4-ft steel soil sampler core barrel with an acetate, polyethylene or Teflon liner and attach sampler to end of steel rods.
3. Hydraulically push or drive the 3-ft or 4-ft soil sampler and rods to intended depth. Soil samples will be collected from intervals specified in the Site-Specific Work Plan.
4. Open the core barrel and disassemble revealing the soil core sample within the liner. Label the depths on each end of liner and mark the top and bottom to maintain proper core orientation
5. Remove a portion of the liner over the entire length of the core using an appropriate cutting tool.
6. Screen soils immediately in the field using a photoionization detector (PID) or flame ionization detector (FID) to document the levels of organic vapors present. To collect volatile organic headspace readings, place the soil sample in a sealed plastic bag approximately two-thirds full allowing for approximately 30 percent headspace. Place the bag in a dry area, which is as close to room temperature (70º F) as practical. After 10 minutes, use a PID or FID to measure the vapors that accumulate in the bag due to off-gassing from the sample. Base PID/FID usage on the target analytes. If a PID is used, select

the appropriate lamp based on the target analyte. Record the measurement on the Sample/Core Log.

7. Collect soil sample(s) for laboratory analysis. Don a clean pair of disposable gloves immediately prior to sample collection. VOC samples will be collected directly from the target depth interval of the soil core to minimize disturbance using an EnCore™ sampler or equivalent (Terra Core). Transfer the remaining soil from the target depth interval to a stainless steel bowl. Mix the soil using a stainless steel spoon until the sample is visually uniform. Remove any debris or larger rocks observed during mixing using the spoon. Collect non-VOC analysis samples from the bowl and place in appropriate sample container, label the container, and place on ice. Note on the field sample log the depth interval from which the sample aliquot was collected. The container and preservative requirements for soil samples are outlined in the Site-Wide QAPP (Appendix A). Double-bag the ice used for sample shipment in self-sealing bags prior to placement in the cooler.
8. Extract from the liners the portion of the soil core not submitted to the laboratory for analysis and use for logging purposes.
9. Describe the soil samples in the field. The lithology of the soil will be described by a qualified and experienced ARCADIS representative through visual observations of the soil core using the USCS or ASTM designation.
10. Place all soil cuttings in drums or roll-off box.
11. Properly decontaminate all down-hole sampling equipment prior to subsequent use in consecutive sample collection. Decontamination procedures are described in Section 3.12.

3.2.2 Groundwater Sample Collection

The following procedures will be used during the collection of shallow groundwater samples from direct push borings. When sampling for metals from direct push borings, both total and dissolved metals will be analyzed to assess the effect of turbidity on the sample results. Polychlorinated biphenyl (PCB) samples will not be collected from direct push borings.

1. Record sampling location and intended sample depth intervals on the Geoprobe® Groundwater Sampling Form (Appendix B).

2. Drive a stainless steel retractable screen attached to the bottom of the hollow steel rods to the target depth beneath the groundwater table. Target depths will be specified in the Site-Specific Work Plan for each Site.
3. Raise rods to approximately 2 to 4 ft to allow the screen to be exposed at the target depth, thus allowing collection of groundwater samples at the target depth.
4. Insert polyethylene or Tygon tubing (1/4-inch diameter) into the hollow rods to allow for collection of grab groundwater samples with a peristaltic pump or dedicated tubing with a check valve assemblage. The tubing with check valve method will be used as the sole means of collecting samples for volatiles organic analysis.
5. Don a clean pair of disposable gloves immediately prior to sample collection. Collect groundwater samples directly into laboratory-prepared, preserved sample bottles and place directly on ice. Fill the sample bottles in the following order: volatile organic compounds (VOCs) first, then remaining analytes.
6. Prepare sample containers according to the container and preservative requirements outlined in the QAPP (Appendix A). Include on the sample label the following: sample identifier, laboratory methodology requested, the sample matrix, date, time, project name, and name of sampler.

3.2.3 Membrane Interface Probe Borings

The Membrane Interface Probe (MIP) is a type of direct push tool, advanced by a standard direct push rig that logs both total VOC concentrations and soil conductivity with depth. The following procedures will be used during the completion of direct push borings using the MIP.

1. Record borehole location on the Boring/Well Construction Log (Appendix B).
2. Hydraulically push the MIP and rods to intended target depth, typically not greater than 60 ft below ground surface (bgs). Because the MIP probe cannot be hydraulically hammered, the MIP probe cannot be driven as deep as conventional Geoprobe® borings.

3.2.4 Temporary Piezometer Installation

Temporary piezometers may be installed in selected Geoprobe® groundwater boring locations in accordance with the Official Code of Georgia Annotated (OCGA) Well

Standards 12-5-134 (State of Georgia, 2008). The temporary piezometer installation procedures are discussed below.

1. After the collection of groundwater samples from the selected Geoprobe® groundwater borings, a temporary piezometer will be installed in the borehole and will be constructed with 10 ft sections of 1-inch to 1¼-inch diameter polyvinyl chloride (PVC) screen and riser.
2. The natural formation will be allowed to collapse around the piezometers.
3. The annular space around the upper 10 ft of the piezometer will be filled with granular bentonite and then hydrated to prevent possible interference from surface water leakage.
4. Because the piezometer is considered temporary, a concrete surface pad will not be installed. Unless otherwise approved by the Georgia Environmental Protection Division (GAEPD), temporary piezometers will be converted to permanent monitoring points or abandoned within 5 days.
5. Each piezometer will be closed with a PVC cap.

3.2.5 Temporary Piezometer Fluid Gauging

Static fluid levels in each temporary piezometer will be gauged using an electronic water-level indicator. Fluid-level measurements will be documented on the Water Level Measurement Form (Appendix B) and will later be converted to mean sea level for reporting purposes.

The following procedures will be implemented when collecting fluid-level measurements:

1. Remove the piezometer cap and document the general condition of the piezometer. In areas where non-aqueous phase liquids (NAPLs) are known to exist or have been present in the past, a PID or FID will be used to check the well for build-up of potentially hazardous gases.
2. Measure static fluid-level elevation using an electronic water-level indicator from fixed reference point (generally the north side of the top of the PVC casing).
3. Repeat the measurements every 5 minutes until two consecutive measurements are obtained that are within 0.01 ft.

Fluid-level measurements will be referenced to a surveyed elevation point located on the top of the piezometer casing. All fluid-level measurements will be taken at least two times to check the reproducibility of the measurement data. If it is found that the measurement cannot be reproduced, a second set of data will be collected. Fluid levels will be collected until the data can be reproduced. This measurement validation process ensures the accuracy of the fluid-level data.

Equipment used to measure the fluid level will be properly decontaminated before first use and between use at each well using the procedures described in Section 3.12.

3.2.6 Direct Push Boring Abandonment

Direct push soil borings installed at the site will be abandoned by allowing the saturated portion of the formation (i.e., unconsolidated sands and gravel) to collapse back into the 2-inch diameter borehole as the Geoprobe® rods are retracted. The upper 10 ft of the borehole will be plugged with granular bentonite and hydrated with potable water to make an impermeable seal.

3.2.7 Temporary Piezometer Abandonment

After the well casing and screen materials from the temporary piezometers have been pulled out of the ground, the borehole will either be filled with granular bentonite or a high solids bentonite-cement slurry mix to within at least three feet of ground surface. If bentonite is used, it will be hydrated with potable water, and the remainder of the borehole will be filled with native soil or clay.

3.3 Drilling Techniques

All soil borings and monitoring wells will be drilled and installed by a Georgia licensed water well driller.

3.3.1 Hollow-Stem Auger Techniques in Soil

Dependent on subsurface soil conditions at the Sites, shallow soil borings may be drilled using hollow-stem auger techniques (ASTM 1452). Soil samples can be collected continuously (if so scoped in a site-specific work plan) using a continuous sampler, or split-spoon sampler (ASTM 1586 and 1587) depending upon percent recovery realized using the continuous core sampler. The following steps outline the

procedures that will be used to drill a shallow borehole for geotechnical or analytical purposes and for the installation of a monitoring well.

1. Record borehole location on the Location Sketch form and intended sample depth intervals on a Boring/Well Construction Log (Appendix B).

2. Clean and assemble the continuous sampler. The continuous core sampler (5 ft in length by 6 inches outside diameter (O.D.) is advanced in the borehole ahead of the augers (8-inch O.D.) and retrieved through the hollow-stem portion of the augers after each 5 ft drilled.

3. Disassemble the core barrel, revealing the soil core sample. Screen the soil samples with a PID/FID and describe in the field using the logging method described in Section 3.1.

4. Collect discrete samples from the core sample based on field screening data (prior to logging) and place in laboratory-prepared glass jars for analytical purposes. The preservation and handling of the samples is discussed in Section 3.4.3.

5. If continuous core sampling is not possible due to the character of the subsurface material encountered, collect samples every 5 ft using a standard split-spoon sampler (2 ft by 2 inch O.D.). Attach the split spoon to the drill rods, insert within the hollow-stem auger, and drive into the unconsolidated deposits using a standard 140-pound drop hammer and rig-driven cathead. Record blow counts for each 6-inch penetration of the split spoon. Drive each split spoon a total of 24 inches.

6. Collect all soil cuttings generated during the drilling of the boreholes and store temporarily on plastic or in a drum or roll-off box while awaiting characterization.

3.3.2 Mud Rotary Drilling

The mud-rotary system consists of a drilling fluid mixture of potable water and bentonite that is pumped down the inside of the drill pipe, and then returned to the surface through the annulus between the drill pipe and the borehole wall. This fluid cools the drill bit, carries the cuttings to the surface, prevents excessive fluid loss into the formation, and

prevents the formation from collapsing. The drilling fluid flows into a mud pit where the cuttings settle out and then is pumped back down the drill rods.

The following steps outline the procedures that will be used for mud rotary drilling.

1. Record borehole location and intended sample depth intervals (if appropriate) on the Boring/Well Construction Log (Appendix B).

2. Drill the deep boreholes from the surface to 1 to 2 ft into the bedrock using a mud rotary drilling rig equipped with a six-inch bit and stabilizer. No formation sampling will be conducted in the deep boreholes.

3. Record any significant or sudden fluid loss or production and soil cutting observations from drilling mud on the Boring/Well Construction Log (Appendix B).

4. Terminate the borehole within the upper 1 to 2 ft of the bedrock surface, which will be determined by the detection of the bedrock fragments in the return mud.

5. Collect all drill cuttings generated during the deep borehole drilling and temporarily stage in either 55-gallon steel drums or a roll-off box while awaiting chemical characterization as discussed in Section 3.13.

3.3.3 Rotasonic Drilling Methodology

Monitoring wells and the soil borings (other than those drilled using direct push methods) will have the option to also be drilled using rotasonic drilling methods. The rotasonic drilling method uses a combination of rotary power, hydraulic pull down pressure, and mechanically generated oscillations to advance a dual line of drill pipe. The top mounted hydraulically powered drill head transmits the rotary power, hydraulic down pressure, and vibratory power directly to the dual line of pipe. The inner drill pipe, measuring from 3-inch to 9-inch I.D., contains a core bit and represents the core barrel sampler. The outer pipe, measuring 4 inches to 12 inches, is used to prevent the collapse of the borehole and is therefore used in the construction of monitoring wells from 1 inch to 8 inches in diameter. This combination of forces advances the inner core barrel sampler through typically difficult unconsolidated deposits and some consolidated formations without the use of mud or air.

Water is not necessary during drilling but may be used in small quantities to help lubricate the drill pipe as it is advanced. Drilling rates are equal to or greater than other conventional rotary methods when they include some method of continuous sampling. The inner drill pipe is always advanced in front of the outer drill pipe. Continuous core samples of 1 foot to 20 ft can be completed depending on job specifications and site conditions.

During typical borehole advancement, the first step is to advance the inner drill pipe and core bit about 6 ft or 10 ft into the ground. Once the inner drill pipe is set, the outer drill pipe is advanced down over the inner drill pipe to hold the boring open. The inner drill pipe is mechanically lifted by the drill head to the surface for core sample recovery. The core sample is vibrated out of the inner drill pipe into a plastic sheath or a stainless steel sample tray. The core sample also can be collected in a split stainless steel or a lexan core barrel liner. The inner drill pipe is then advanced to the top of the next sample interval. These steps are repeated until the desired total depth is reached. Installation of a well would be performed inside the outer drill pipe, which would be removed as the well materials are installed. This will keep the borehole walls from collapsing and ensure that a good sand pack is installed. Monitoring well construction details are discussed in Section 3.5.

All drilling and sampling equipment will be decontaminated according to the procedures outlined in Section 3.12 of this report between each borehole location.

3.4 Collection of Samples for Geotechnical and Chemical Analyses

The procedures for the collection of soil samples during hollow stem auger drilling for geotechnical and chemical analyses are described below.

3.4.1 Geotechnical Samples in Soil and Unconsolidated Deposits

1. Record the soil sample location, depth, date and time of collection, sample identification, name of sampling personnel, and type of drilling and sampling equipment on the Boring/Well Construction Log (Appendix B).

2. Clean and assemble the continuous or split-spoon sampler. The sampler will be fitted with 6-inch long California (brass) rings or equivalent sampler liners, so that soil samples can be retrieved with minimum disturbance for geotechnical analyses.

3. Lower the sampler through the drill stem to the desired sampling depth. If using a split-spoon sampler, drive the sampler with a standard 140-pound hammer free-falling 30 inches in accordance with ASTM Method D1586. Record the number of blows per foot required to drive the split spoon.

4. After the continuous core barrel or split-spoon sampler is retrieved and opened, mark with indelible ink the depths of the sample at the top and bottom of each brass ring. Don a clean pair of disposable gloves immediately prior to sample collection. Using a stainless steel spatula or knife, cut the soil sample between the brass rings. Using plastic caps, cap each end of each ring. Label each ring with the appropriate sample designation.

5. The geotechnical samples do not have to be placed on ice or chilled.

6. Submit to geotechnical laboratory using COC procedures (Section 4.3).

7. From the remaining soil core, conduct field screening and describe soil sample lithology using procedures outlined in Section 3.1.

8. Alternate methodologies that may be used to obtain geotechnical samples, such as the use of a Shelby tube, will be described in the Site-Specific Work Plan for each Site.

3.4.2 Geotechnical Samples in Sediment

The procedures for the collection of geotechnical samples from shallow and deep sediments are outlined below.

1. If standing water is located over the sampling location and a deep sediment sample is to be collected, then the upper sediment and surface water should be removed prior to sample collection. Drive a minimum 4-inch O.D. schedule 40 PVC blank casing into sediment sampling location. Place a wooden board on top of PVC casing while driving casing into sediment to prevent breaking the casing. Use peristaltic pump to remove surface water from casing.

2. If collecting the geotechnical sample at 1.5 to 2.0 ft bgs, remove overburden with a decontaminated stainless steel bucket auger to a depth just above top of sampling depth (i.e., 1.5 ft bgs).

3. Drive a decontaminated 1 to 2-inch diameter stainless steel soil sampler lined with a plastic or acetate liner to depth required. A disposable acetate or thin walled stainless steel soil probe may also be used.

4. If a gravelly substrate is encountered, a decontaminated bucket auger may be used to collect the sample from 1.5 to 2.0 ft bgs.

5. Cap the liner and retract the sampler. The sample core may not remain in the sampler or tube if the top is not capped.

6. Cap the bottom of the sample. If a liner is used, remove the liner from the sampler, then cap the bottom of the sample.

7. If freestanding water was also captured in the sampling tube or liner, remove the top cap and gently pour off the water without disturbing the sediment sample.

8. Don a clean pair of disposable gloves immediately prior to sample collection. If using a bucket auger to collect the geotechnical sample, remove sample from bucket and pack into laboratory container.

9. Document the sample on a Soil/Sediment Sample Log (Appendix B).

10. The geotechnical samples do not have to be placed on ice or chilled.

11. Submit to geotechnical laboratory using COC procedures (Section 4.3).

3.4.3 Samples for Chemical Analyses

The procedures for collection of samples for chemical analyses are outlined below.

1. Record the soil sample location, depth, date and time of collection, sample identification, name of sampling personnel, and type of drilling and sampling equipment on the Boring/Well Construction Log (Appendix B).

2. Clean and assemble the continuous core barrel or split-spoon sampler.

3. Lower the sampler through the drill stem to the desired sampling depth. If using a split-spoon sampler, drive the sampler with a standard 140-pound

hammer free-falling 30 inches in accordance with ASTM Method D1586. Record the number of blows per foot required to drive the split spoon sampler.

4. After the continuous core barrel or split-spoon sampler is retrieved and opened, collect soil samples for chemical analysis. Don a clean pair of disposable gloves immediately prior to sample collection. Collect VOC samples directly from the core barrel or spit spoon sampler using an EnCore™ sampler or equivalent (Terra Core) to minimize sample disturbance. Place the remaining soil sample volume into a stainless steel bowl. Mix the soil using a stainless steel spoon until the sample is visually uniform. Remove any debris or larger rocks from the soil during the mixing process using the spoon. Place the remaining soil samples into their appropriate containers. If the sample material is of size or consistency that an EnCore sampler cannot be used, place the material in a glass 4-ounce container. Immediately store the containers in a cooler on ice at 4º C. Complete the sample label for soil samples selected for analyses.

5. Document the sample on a Soil/Sediment Sample Log.

3.5 Monitoring Well Construction

3.5.1 Shallow and Intermediate Well Construction

The shallow and intermediate wells will be installed in boreholes drilled using hollow-stem auger techniques. Monitoring well construction details will be documented on the appropriate Well Construction Log (Appendix B). No water will be introduced during monitoring well construction unless the borehole conditions require stabilization. If required, the water will be obtained from the Fort Stewart or Hunter Army Airfield potable water system.

1. The screened interval for all monitoring wells is anticipated to be 5- to 10 foot-sections of factory-milled 10-slot, 2-inch O.D., schedule 40 PVC screen, placed in the bottom of each well. The well screen attached to threaded, flush joint, 2-inch O.D., schedule 40 PVC casing will be inserted in the borehole through the minimum 6.25-inch O.D. hollow-stem auger.

2. The screened interval of the monitoring wells will be specified in the Site-Specific Work Plan for each Site.

3. PVC casing will be threaded to the screen and brought to a height of 3 ft above ground level for completion.

4. The annular space between the well and the borehole wall will be backfilled with a clean, graded, size 20 to 40 silica sand pack that will extend from the bottom of the borehole to a minimum of 2 ft above the top of the screened interval. The sand pack will be placed by tremie pipe from the bottom of the borehole through the hollow-stem augers to ensure complete placement around the well screen. The hollow stem auger will be retrieved as the sand pack is emplaced and can typically serve as the tremie pipe for filter pack placement.

5. Approximately 1 ft of very fine sand grade size 50 or smaller may be emplaced above the filter pack to prevent the migration of the bentonite slurry into the well screen.

6. A minimum thickness of 3 ft of bentonite pellets or chips will be placed on top of the filter pack as a seal. If the seal is within the unsaturated zone at the time of installation, granular bentonite will be placed in one-foot lifts, saturated with potable water, and allowed to hydrate. Hydration time will conform to the manufacturer's recommendations before further work on the well is performed.

7. The annular space from the top of the bentonite seal to within 1 foot beneath the frost line (approximately 30 to 36 inches bgs) will be filled with a cement and bentonite slurry containing high solids mixed to the manufacturer's specifications. Alternatively, cement/bentonite slurry consisting of 8 gallons water and 5 percent bentonite by weight per bag of Portland cement will be used, with a target density of 14 to 15 pounds per gallon. The bentonite slurry will be placed with a tremie pipe from the bottom of the annular area to be grouted to ensure proper placement of the slurry.

8. The remaining annular space near land surface will be filled with concrete. All wells will be completed above grade using a protective steel cover. A concrete apron will be installed around the cover. The apron will be a minimum of 2 ft by 2 ft and 6 inches in thickness, and shall be sloped to promote drainage away from the well. The wells will also be equipped with locking caps.

9. At selected locations, steel guard posts or protective barriers will be installed around the wells in a manner designed to prevent vehicles from accidentally damaging the well.

3.5.2 Pre-pack Screen Monitoring Well Construction

For shallow to intermediate monitoring wells where heaving (flowing) sands are expected to be encountered, an alternative method of monitoring well construction would include the use of pre-packed screens during well construction. Figure 3-1 shows the well schematic for the prepacked screens. The construction of these wells would follow the same steps detailed in Section 3.5.1 with the following exceptions.

1. The screened portion of the monitoring well will consist of 5- to 10-foot sections of pre-packed screen. In the case of 2-inch diameter well, the screen will have a 2.0-inch I.D. and a 3.63-inch O.D. Previous site investigations have shown that the 12-slot screen with a 10 by 20 sand pack will be more than adequate for construction of the monitoring well.

2. Formation material will be allowed to collapse around the screen upon removal of the augers to a point 2 ft above the screened interval.

3.5.3 Monitoring Well Construction Beneath a Confining or Semi-Confining Layer

Installation of monitoring wells beneath a confining or semi-confining layer is outlined in the procedures below. Monitoring well construction details will be documented on the appropriate Well Construction Log.

1. An 8-inch PVC casing will be set 1 foot into the top of the confining unit. The casing will then be grouted around the annulus of the casing to the land surface to seal off the casing from the aquifer. The grout will be allowed to set for a period of time in accordance with the manufacturer's specifications to ensure a proper seal is set.

2. Inside of the casing the bore hole will be completed through the confining layer to the aquifer below to the target depth.

3. Inside of the 8-inch casing, the well will be constructed with 2-inch threaded flush joint, Schedule 40 PVC casing and 2-inch threaded flush joint, Schedule 40 PVC, 0.010-inch continuously mill-slotted screen. Schedule 80 well material

will be used for monitoring wells deeper than 100 ft. Pipe joint compound (glue) will not be used in constructing the monitoring wells. If the depth of the well is to be greater than 50 ft, centralizers above the screened interval may be used to aid in well construction.

4. Casing will be added to the well screen and brought from the top of the screened interval to a height of 3 ft above ground level for completion.

5. The annular space between the well and the borehole wall will be backfilled with a clean, graded, size 20 to 40 silica (or alternative gradation based on site-specific data) sand pack that will extend from the bottom of the borehole to a minimum of 2 ft above the top of the screened interval. The sand pack will be placed by tremie pipe from the bottom of the borehole through the hollow-stem augers to ensure complete placement around the well screen.

6. Approximately 1 ft of very fine sand may be emplaced above the filter pack to prevent the migration of the bentonite slurry into the well screen.

7. A minimum thickness of 3 ft of bentonite pellets or chips will be placed on top of the filter pack as a seal. If the seal is within the unsaturated zone at the time of installation, the bentonite will be saturated with potable water and allowed to hydrate. Hydration time will conform to the manufacturer's recommendations before further work on the well is performed.

8. The annular space from the top of the bentonite seal to within 1 foot beneath the frost line will be filled with a cement and bentonite slurry containing high solids mixed to the manufacturer's specifications. The bentonite slurry will be placed with a tremie pipe from the bottom of the annular area to be grouted to ensure proper placement of the slurry.

9. The remaining annular space near land surface will be filled with concrete. All wells will be completed above grade using a protective steel cover. A concrete apron will be installed around the cover. The apron will be a minimum of 2 ft by 2 ft and 6 inches in thickness, and shall be sloped to promote drainage away from the well. The wells will also be equipped with locking caps.

10. At selected locations, steel guard posts or protective barriers will be installed around the well in a manner designed to prevent vehicles from accidentally damaging the well.

3.5.4 Borehole and Well Abandonment

A Georgia licensed water well driller will abandon all boreholes not used for monitoring well installation, temporary wells, or permanent wells in accordance with the OCGA Georgia Well Standards 12-5-134 (State of Georgia, 2008).

3.5.5 Temporary Well Abandonment

Temporary wells will be abandoned by the following procedures.

1. The monitoring well riser pipe and well screen will be removed from each borehole. The riser pipe and screen will be decontaminated by steam cleaning at the designated decontamination area and will be discarded in a sanitary waste landfill.

2. The entire borehole will be grouted with a cement and bentonite slurry containing high solids mixed to the manufacturer's specifications. The bentonite slurry will be placed with a tremie pipe from the bottom of the annular area to be grouted to ensure proper placement of the slurry.

3. The abandoned borehole will be marked with a flag or stake.

3.5.6 Soil Boring Abandonment

The procedures for abandoning boreholes are as follows:

1. The entire borehole will be grouted with a cement and bentonite slurry containing high solids mixed to the manufacturer's specifications. The bentonite slurry will be placed with a tremie pipe from the bottom of the annular area to be grouted to ensure proper placement of the slurry.

2. The abandoned borehole will be marked with a flag or stake to allow for surveying.

3.6 Groundwater Level Measurements and Sampling

3.6.1 Groundwater Level Measurements

Water level measurements will be referenced to a surveyed elevation point located on the top of the well casing. This measurement point will be surveyed by a Certified Land Surveyor and referenced to ft above mean sea level (amsl). An electronic water level probe will be used to gauge the water level in the new wells, in addition to the existing monitoring wells and piezometers at the facility.

Water levels will be recorded in the new monitoring wells, existing monitoring wells and piezometers within 24 hours prior to each groundwater sampling event. The total well depth may also be measured at this time to determine if sediment has accumulated in the well thereby reducing the effective well depth. Water level measurements at each Site will begin with the upgradient wells (i.e., inferred least contaminated wells) and proceed to the downgradient wells (i.e., inferred most contaminated wells). Water-level measurements will be collected within a single 24-hour period and will be measured twice to check the reproducibility of the measurement data. This measurement validation helps ensure accuracy with regard to the water level data collection. The procedure for obtaining water level measurements is as follows:

1. Describe the area surrounding the well, whether or not the lock was secure (if applicable), if the well could have been impacted by surface water runoff, ambient weather conditions and other factors that could affect the final data analysis. This documentation is recorded on a Water Level Measurement Form) Appendix B).

2. Decontaminate the electronic water probe prior to initiating water level measurements and between all wells and piezometers. Decontamination procedures are described in Section 3.12.

3. Unlock the protective casing and remove the inner cap on the riser.

4. Check the probe to verify that it is operational, then lower down the monitoring well.

5. If the well is not vented, allow the water level to equilibrate for a few minutes prior to collecting the first measurement. Take fluid level measurements from a

fixed reference point (the north side of the top of the PVC riser) using an electric tape graduated in 0.01-foot intervals.

6. Repeat the measurements until two measurements are obtained that are within 0.01 ft.

7. Remove and decontaminate the probe, replace the inner cap, and lock the protective casing.

3.6.2 Low-Flow Groundwater Purging and Sample Collection

The following protocol has been developed to obtain groundwater samples that are representative of formation conditions and is intended for use in sampling monitoring wells during the field activities. New monitoring wells will not be sampled for at least 24 hours following non-stressful means of well development (e.g., purging with submersible pump or bailer) and 48 hours following stressful means of well development (e.g., air lift, surge and purge). Monitoring wells will be purged prior to collecting groundwater samples to ensure that representative formation water is being sampled. The monitoring wells will be purged and sampled in the same order as that for water-level measurements (upgradient to downgradient, or least contaminated to most contaminated where known based upon prior sampling results). Prior to introduction into the well, all non-dedicated equipment and materials will be decontaminated in accordance with the procedures outlined in Section 3.12.

The following procedures will be implemented when performing well purging prior to sample collection:

1. Put on clean latex or vinyl surgical gloves or nitrile gloves.

2. Unlock the metal protective casing, remove the well cap, and document the general condition of the well.

3. Determine static fluid-level elevation using electronic probe. Record on Groundwater Sampling Form (Appendix B).

4. Compute the volume of water in the well (0.162 gallon/foot for a 2-inch diameter well). The volume of water to be purged will be computed based on the total well depth recorded upon the completion of well installation. The total depth will be measured periodically during the monitoring program to determine if

sediment has accumulated in the well thereby reducing the effective well volume. If it is determined that sediment has accumulated in the well, then the new well depth will be used to compute the volume of water to be purged.

5. Insert the pre-cleaned bladder (or peristaltic) pump and tubing into the well to the midpoint of the well screen. Record installation time in field notes. Dedicated Teflon and/or PVC bailers may be used to facilitate sample collection where site conditions warrant, such as low recovery wells.

6. Start pump at the lowest possible flow rate and adjust the pumping rate to approximately 100 milliliters per minute (mL/min). Record pump start time in field notes. Verify the flow rate with the graduated cylinder or equivalent by collecting the water from the discharge line for one minute. Record results in field notes. Based on the recovery rate of the well, the pump may need to be raised or lowered to adequately purge the entire well column. Adjustments will be recorded in the field notes.

7. Monitor water level to verify that little or no drawdown (0 to 0.3 ft) is occurring in the well. If desired, the flow rate may be increased to up to 300 mL/min in more permeable formations as long as little or no drawdown is observed in the well. Record measurements and flow rates in field notes.

8. Obtain field parameter measurements (temperature, specific conductance, pH, dissolved oxygen, oxidation-reduction potential [ORP], and turbidity) every 5 minutes and record on the Groundwater Sample Log. Purge until the criteria listed below have been met (unless low well recovery precludes this):

    - The field parameters stabilize to within +/- 10 percent of three consecutive meter readings taken at least 5 minutes apart.

    - The measured turbidity is less than 10 nephelometric turbidity units (NTUs), unless low recovery precludes this.

9. Collect VOC samples for laboratory analysis (if required) at a low flow rate (100 mL/min) directly into the appropriate sample container. If a peristaltic pump is used, the downhole tubing will be filled using suction and removed from the well to prevent the sample from contacting the pump head. The pump speed is reduced and the direction reversed to push the sample out of the tubing and into the sample containers. Ensure that no air bubbles are present in the vial.

Secure sample container lid and store sample containers in chilled cooler after filling out the sample label.

10. Collect additional samples for non-VOC analysis (collecting in the order of explosives, metals, and indicator parameters). If samples are being collected usig a persitaltic pump following VOC sample collection, repeat steps 1 through 8. Collect non-VOC samples at low flow rate (100 mL/min). Flow rates of up to 500 mL/min can be used if all stabilization criteria are achieved. Unless specified in the site-specific work plan, metals samples will be collected unfiltered. If site conditions require filtration for metals analysis, an in-line 45 micron filter will be used. Secure sample container lids and store sample containers in chilled cooler.

11. Complete sampling documentation on the Groundwater Sampling Form, record the collection date and time on the sample key, and fill out the Well Sampling Summary form (Appendix B).

12. If inadequate water is present in the well to fill the required sample containers, return periodically within 24 hours until adequate sample volume is obtained and field parameters measured. Collect groundwater for individual analyses in the appropriate sample order. If required, collect VOCs and store first, then metals and other indicator parameters.

13. If drawdown in the well cannot be maintained within the 0.3-foot requirement, sample collection will be performed after three well volumes of groundwater have been purged. Begin sample collection with VOC analysis unless otherwise noted in the site-specific work plan. For wells that purge dry before all of the samples are collected, allow the well to recover and then make one more attempt to collect the remaining samples within a 24-hour period.

14. Turn off pump. Remove portable pump from well and decontaminate or dispose. Tubing will be left as dedicated tubing in the well or disposed of after use.

15. Determine the total depth of the well. Compare the measurement of the total depth of the well with previous measurements and well construction log to determine available screen length. Record on water sampling log. If more than 20 percent of a well screen is occluded by sediment, the well must be redeveloped prior to collecting future groundwater quality samples. Samples

collected prior to the total well depth measurement will be representative only if the field data indicate that the well met stabilization criteria prior to sampling.

16. Replace cap on well and protective casing lock well.

3.6.3 Slug Test

This procedure defines the requirements for conducting a slug test in a monitoring well. The purpose of this procedure is to provide a uniform basis for conducting slug tests and to ensure the continuity between field personnel. A water level indicator will be used to measure the change in water levels versus time during the slug test. However, for slug tests completed in wells screened in very permeable formations, a transducer and data logger may be used to measure and record water level changes over time.

1. Open the locking and vented caps and inspect the wellhead. Note in particular the condition of the surveyed reference mark, if any.

2. Measure and record the static water level and the depth to the bottom of the well. Record this data on the Water Level/Pumping Test Record (Appendix B).

3. Lower the slug into the water until it is fully submerged. Allow the well to equilibrate to static water level.

4. Verify the static water level has been reestablished with an electronic water-level indicator.

5. Withdraw the slug quickly, but avoid surging. Record the time of withdrawal to the second. Start the stopwatch, if used, at the instant the slug is withdrawn.

6. Using an electronic water level indicator, measure and record the initial displacement of water as soon as the slug has been withdrawn.

7. Measure and record the rise in water level vs. time. Using the water-level indicator and a stopwatch, record depth-time data at the fastest rate possible for the first 5 minutes of well recovery. Generally the water levels should be recorded every 30 seconds for the first 5 minutes, then every minute for the next 5 minutes. Subsequent recording intervals may be adjusted to suit the rate of well recovery. An electronic data logger and pressure transducer may be used in lieu of manual water level measurements.

8. Continue recording depth-time data until the well has recovered to nearly the static water level or at least 90 percent of the static water level. If 90 percent of the static water level has not been achieved within 2 hours, then field personnel may return periodically within the next 24 hours to record the water level.

9. Record the time of test completion in the field data forms.

10. Decontaminate all equipment according to the procedures outlined in Section 3.12. Close and lock the well before leaving.

3.6.4 Constant Rate Pump Test

1. Upon arriving at the site, collect a round of static water levels from all site monitoring wells. Record this data on the Water Level/Pumping Test Record (Appendix B).

2. Place the pump in the pumping well and connect to the electrical service. The pump discharge will be connected to 1) a control valve, 2) inline filter (optional), and 3) flow meter. Dependent on site conditions, treatment systems (i.e., flow-through vessels, carbon units) may be used prior to water storage or discharge.

3. Initiate a short step test beginning at 2 gallons per minute (gpm). The initial step test pumping rate may be altered depending on site specific conditions. The pumping rate will be increased in two subsequent steps (the amount of increase will be determined in the field based on the drawdown achieved at 2 gpm). Measure water levels in the pumping well and the three closest monitoring wells during the step test.

4. Based on the results of the step test, determine a pumping rate that will 1) achieve significant drawdown in the pumping well, and 2) will not result in dewatering the well during the pumping test.

5. Begin the pumping test after the water levels in the pumping well and observation wells have returned to static conditions.

6. Turn on the pump in the test well and operate at a constant rate during the remainder of the test.

7. Collect water levels at a logarithmic interval in the pumping well, monitoring wells within 100 ft of the pumping well, piezometers within 100 ft of the pumping well, and at least one background well. Collect the water levels using a handheld electronic water level indicator or through the use of pressure transducers.

8. After the test has been conducted for a period of 24 hours, evaluate the pump test data to determine if continuation of the pump test is justified. If so, continue the test for a total of 48 hours, or until the data indicate that asymptotic conditions were achieved.

9. When the determination has been made to stop the pumping test, initiate the recovery portion of the test.

10. After the pump has been shut off, measure water levels at a logarithmic interval in the pumping well, monitoring wells within 100 ft of the pumping well, piezometers within 100 ft of the pumping well, and the selected background well. Continue measurements until the water level in the pumping well has recovered at least 90 percent.

3.6.5 LNAPL Bail Down Test

This procedure defines the requirements for conducting an LNAPL Bail Down Test in a monitoring well. The purpose of this procedure is to measure the thickness and depth to free product in the well as it recovers. The results of these tests are analyzed in accordance with techniques described in "How to Effectively Recover Free Product at Leaking Underground Storage Tank Sites," (EPA 510-R-96-001) to assist choice of potential free product recovery methods. The following steps will be used:

1. Measure the depth to LNAPL and groundwater.

2. Remove as much LNAPL from the well as possible using a weighted disposal bailer.

3. Measure the recovery rate of free product and groundwater using a hydrocarbon probe. Record the LNAPL thickness and recovery time in the well at regular intervals until the recovery rate has stabilized.

4. Determine 80 percent of the maximum LNAPL recovery thickness.

5. Interpolate the recovery time for 80 percent recovery.

6. Compute gallons per foot of LNAPL thickness in the well screen.

7. Compute the average recovery rate in gallons per day to 80 percent recovery.

3.7 Test Pit Excavations

The following procedures may be used to install test trenches, if deemed necessary to characterize waste materials.

1. Complete a trench to approximately 4 ft bgs with a track hoe or equivalent piece of excavation equipment.

2. Describe the profile of waste based on visual observations of the material removed from the trench and record on a Boring/Well Construction Log (Appendix B).

3. Backfill the trench with waste material after the trench has been completed.

4. Cover the trench with compacted soil.

5. Mark the trench area with a stake for surveying purposes.

3.8 Sediment Sampling

The following procedures will be used to collect sediment samples during the field activities at the Fort Stewart and Hunter Army Airfield.

3.8.1 Shallow Ditch Sediment Sampling

1. Sediment samples will be collected with a decontaminated stainless steel trowel or hand auger. Decontamination procedures are outlined in Section 3.12. A stainless steel hand auger or trowel will be used to collect sedimentsoils from the 0 to 0.5-foot (6-inch) interval.

2. The sediment sample will be placed directly into a stainless steel bowl. The sediment will be mixed using a stainless steel spoon until the sample is

visually uniform. During the mixing process any debris or larger rocks will be removed using the spoon.

3. The sample will be transferred from the bowl into a laboratory-prepared sampling containers supplied by the laboratory.

4. The sample will be documented on a Soil/Sediment Sample Log and the Soil Sample Summary Form.

Surficial soil samples will be collected from ditch areas that may be dry or have no freestanding water at the time of sampling. The following dry ditch sediment sampling procedures should be used only if the ditch is dry or has no freestanding water:

1. Prior to sample collection, any rocks, vegetation or debris will be removed with a stainless steel trowel.

2. Surficial soil samples will be collected with a decontaminated stainless steel trowel or hand auger. Decontamination procedures are outlined in Section 3.13. A stainless steel hand auger or trowel will be used to collect soils from the 0 to 0.5-foot (6-inch) interval.

3. The soil sample will be placed directly into a stainless steel bowl. The soil will be mixed using a stainless steel spoon until the sample is visually uniform. During the mixing process any debris or larger rocks will be removed using the spoon.

4. The sample will then be transferred from the container into the laboratory-prepared sampling containers supplied by the laboratory. The sampling activities will be documented on a Soil/Sediment Sample Log and the Soil Sample Summary Form.

5. Following sampling, the sample location will be filled in and any removed rocks or vegetation replaced.

3.8.2 Deep Ditch Sediment Sampling

1. Remove overburden with a decontaminated stainless steel bucket auger to just above the top of the prescribed sampling depth.

2. Drive a decontaminated 1 to 2-inch diameter stainless steel soil sampler lined with a plastic or acetate liner an additional 6 inches in depth. A disposable acetate or thin walled stainless steel soil probe may also be used.

3. Use a decontaminated bucket auger to collect the sample from 1.5 to 2.0 ft bgs if a gravelly substrate is encountered.

4. Cap the liner and retract the sampler. The sample core may not remain in the sampler or tube if the top is not capped.

5. Cap the bottom of the sample. If a liner is used, remove the liner from the sampler, then cap the bottom of the sample.

6. If freestanding water was also captured in the sampling tube or liner, remove the top cap and gently pour off the water without disturbing the sediment sample. Place the sediment sample directly into a stainless steel bowl. Mix the sediment using a stainless steel spoon until the sample is visually uniform. Remove any debris or larger rocks from the sediment during the mixing process using the spoon.

7. The sample will then be transferred from the container into the laboratory-prepared sampling containers supplied by the laboratory.

8. Document the sample on a Soil/Sediment Sample Log and the Soil Sample Summary Form.

Subsurface soil samples may be collected from ditch areas that may be dry or have no freestanding water at the time of sampling. The following dry ditch sediment sampling procedures described below should be used only if the ditch is dry or has no freestanding water:

1. Prior to sample collection, any rocks, vegetation or debris will be removed with a stainless steel trowel.

2. A decontaminated stainless steel hand auger will be used to collect soils from the prescribed depth interval. The collected soil sample will be placed directly into a stainless steel bowl. The soil will be mixed using a stainless steel spoon until the sample is visually uniform. During the mixing process any debris or larger rocks will be removed from the soil using the spoon.

3. The sample will then be transferred from the container into the laboratory-prepared sampling containers supplied by the laboratory. The sampling activities will be documented on a Soil/Sediment Sample Log and the Soil Sampling Summary Form.

4. Following sampling, the sample location will be filled in with surrounding sediment.

3.8.3 Shallow Stream Sediment Sampling

Stream sediment samples may be collected along predetermined transects upstream, adjacent to, and downstream of the area of interest in conjunction with surface water sampling for the characterization of the aquatic environment. Please note that the sediment samples may have to be collected by personnel outfitted with waders.

The sediment sampling procedures are described below and assume that all samples can be collected by personnel outfitted with waders that can access all sampling locations on a transect.

1. Position identification markers for the sediment and surface sampling locations along the stream bank prior to sampling. At each transect, mark and stake opposite banks of the stream to support a rope premarked at least at 10-foot intervals or measuring tape pulled taut across the stream slightly above water level. Each tape mark will become a station for a depth sounding of the river and a point for flow velocity measurements. For streams that are 10 ft in width or less, only one sampling station is required at the stream mid-point.

2. Measure the water velocity and flow using a current meter. Measure flow velocity at each station and at each 5-foot depth interval to the base of the stream. In every case, collect a flow measurement at the base and upper surface of the stream.

3. Briefly describe the substrate beneath each station as marked on the rope, such as silt, sand, gravel, and bedrock. In this manner, select the site for sediment sampling. Preferred sediment sample collection locations are areas of deposition, where fine-grained materials, such as clay, silt, or fine sand, collect. In addition, collect samples in pools, rather than riffles. The dredge sampler may not function properly if the substrate being sampled contains a large amount or large pieces of gravel.

4. Approach the sampling location from downstream to avoid disturbing the sediment prior to sampling.

5. Collect the sediment samples using an Ekman or Ponar dredge or equivalent. Gently advance the dredge approximately 6 inches into the sediment. The dredge closes with a messenger weight and the spring-loaded jaws shut to collect the sediment sample. A minimum of three aliquots will be collected at each sampling location.

6. Place the sediment samples directly into a clean stainless steel bowl. If VOC samples are to be collected, they should be taken directly from the sampling device using an EnCore™ sampler or equivalent (Terra Core). If the VOC samples cannot be collected from the sample device, they can be collected immediately after placement of the sediment in the stainless steel bowl. Following VOC sample collection, the remaining sediment will be mixed using a stainless steel spoon until the sample is visually uniform. During the mixing process any debris or larger rocks will be removed using the spoon.

7. Fill the appropriate laboratory jars for the non-VOC parameters specified in the Site-Specific Work Plan. Attach the lids and label appropriately. Complete the Soil Sample Summary Log (Appendix B).

8. With the remaining sediment sample, record the sediment characteristics, such as texture, odor, color, and other distinguishing factors on a Soil/Sediment Sample Log (Appendix B).

9. Remove the rope marking the transect, if not collecting deep sediment samples. Do not remove the stakes marking the transect. Survey the elevation of the stakes to a known elevation datum to provide a depth profile of the river.

3.9 Surface Water Sampling

Surface water samples may be collected along predetermined transects upstream, adjacent to, and downstream of the area of interest in conjunction with stream sediment sampling for the characterization of the aquatic environment. Please note that the surface water samples will have to be collected using a small boat or by personnel outfitted with waders. The optimum time to collect the surface water samples will be at a low stream flow so that personnel outfitted with waders can collect the samples.

Using a boat to collect the samples introduces special health and safety concerns and typically doubles the amount of time required to complete the task.

The surface water sampling procedures are described below and assume that all samples can be collected by personnel outfitted with waders that can access all sampling locations on a transect.

1. Follow steps 1 and 2 outlined in the stream sediment sampling procedure outlined in Sections 3.8.3.

2. At each transect, collect a surface water sample near the top of the water column with a clean Pyrex sampling cup or equivalent for field measurement of temperature, pH, specific conductance, and dissolved oxygen. An equivalent flow-through meter may also be used for each field parameter.

3. At locations that are deeper than 5 ft, collect the field measurements at each 5-foot depth interval using a Van Dorn or Kemmerer Type sampler.

4. Record the field measurements in a Surface Water Sample Log (Appendix B).

5. If the stream does not exhibit thermal or chemical stratification as determined by the field measurements (temperature and pH), collect a surface water sample with a clean Pyrex sampling cup or equivalent near the top of the water column. Immerse the Pyrex cup at an angle such that water gently flows in with minimal disturbance. Use the sample to fill laboratory-prepared sample bottles for analysis.

6. If the stream exhibits thermal or chemical stratification as determined by the field measurements (temperature and pH), then collect surface water samples every 5 ft using a Van Dorn or Kemmerer style water sampler.

7. Record the sampling location, date and time of collection, sample collection method, sample identification, sample preservative, methods of analysis, and initials of the sampling personnel on the Surface Water Sample Log (Appendix B).

8. Decontaminate the sampling equipment as described in Section 3.12.

3.10 Field Analytical Measurements

Several instruments may be used to collect field analytical data. These instruments include a pH meter, specific conductance meter, a thermometer, dissolved oxygen meter, and turbidity meter (nephelometer). The following equipment (including model number and manufacturer) will be used:

- pH meter (model SA-230) manufactured by Orion Research, Inc. or equivalent;
- Specific conductivity meter (model 0148-40) manufactured by Cole-Palmer Instrument Company or equivalent;
- Digital thermometer that meets the National Bureau of Standards requirements;
- Dissolved oxygen meter (model 810) manufactured by Orion Research, Inc. or equivalent; and
- Turbidity meter (model 800) manufactured by Engineered Systems or equivalent.

Field instruments will be calibrated at least once a day, and more often if conditions warrant. Calibration procedures will follow manufacturer's specifications and will be documented by field personnel on the Field Instrument Calibration Log (Appendix B).

3.11 Quality Control Samples

To monitor sampling and laboratory performance it may be necessary to collect several types of field QA/QC samples. The field QA/QC samples include trip blanks, equipment rinsate blanks, and field duplicates. The specific number and type of QA/QC samples that will be collected at each Site are outlined in the Site-Specific Work Plans and may be more or less than the criteria stated below based upon data quality objectives and professional judgment.

A trip blank is a container filled with distilled and organic-free water prepared in, and provided by, the analytical laboratory. A trip blank is sent from the analytical laboratory to the field-sampling site, and is returned to the laboratory for analysis. The trip blank results are used to evaluate whether contamination by VOCs occurred during shipment of samples and/or during container transport. One trip blank is required in each sample cooler transporting samples for VOC analysis.

An equipment rinsate blank is a sample of organic free water (for VOC analyses) poured into, or over, or pumped through the sampling device, collected in the sample bottle, and transported to the laboratory for analysis. Equipment rinsate blanks are used to assess the effectiveness of equipment decontamination procedures.

Equipment rinsate blanks are collected immediately after the equipment has been decontaminated. Equipment rinsate blanks are collected by gently pouring distilled or deionized water over selected clean non-dedicated equipment and collected for laboratory analysis. For example, the equipment rinsate blank for soil and sediment sampling programs will be collected by gently pouring distilled or deionized water over clean core barrels or soil core samplers. The equipment rinsate blank for surface water and groundwater sampling programs will be collected by gently pouring distilled or deionized water over clean non-dedicated bailers or sampling cups. Equipment rinsate blanks will be collected at a frequency of 5 percent of the field samples at critical points in the sampling program, such as the sampling of a background well or the end of the sampling program.

The frequency requirements for collecting equipment rinsate blanks are a minimum of five percent of the environmental samples. The blank shall be analyzed for all laboratory analyses requested for the environmental samples collected at the Site. When an analyte is detected in the equipment rinsate blank the appropriate validation flag, as described in the data validation section, shall be applied to all sample results from samples collected. It should be noted that the laboratory will supply the organic free water. A sample aliquot of the organic free water will be submitted for the analysis of all parameters of interest.

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field such that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Specific locations are designated for collection of field duplicate samples prior to the beginning of sample collection. A field duplicate will be collected at a rate of one per twenty samples or one per sampling event, if less than twenty samples.

Field duplicate sample results are used to assess precision, including variability associated with both the laboratory analysis and the sample collection process. Field duplicates will be collected at a frequency of 5 percent of samples collected. Analytical

results for field duplicate will be assessed during the data validation process. Specific locations will be designated for collection of field duplicate samples prior to the beginning of sample collection. Control limits for evaluation of precision for field duplicates will be 40 percent for aqueous samples and 70 percent for soil/sediment samples.

Laboratory quality assurance protocols including the performance of laboratory control samples and matrix spikes relating to method acceptance criteria are included in Section 2.7 of the Site-Wide QAPP (Appendix A). The QAPP also defines the data qualification guidelines for evaluating potential matrix interferences identified during matrix spike analyses. The parent and field duplicate sample will be included in all reporting.

3.12 Field Equipment Decontamination

The cleaning procedures outlined in this section will be used by all personnel to clean sampling and other field equipment to prevent cross-contamination during separate phases of the investigation. Documentation regarding decontamination will be recorded on the Daily Log (Appendix B). Specific cleaning procedures are presented in the following section.

A decontamination area will be established where steam cleaning of the drilling and well construction equipment and materials can occur and containment and proper disposal of wash water is possible. An impervious decontamination area will be utilized and the water used to clean the equipment will be containerized for offsite disposal.

3.12.1 Cleaning Materials

The laboratory detergent used to wash the equipment will be a standard brand of phosphate-free laboratory-grade detergent such as Micro or Liquinox. The use of any other detergent must be justified and documented in the field logbooks and inspection or investigative reports.

Potable water is defined as tap water fit for human consumption from a known source. Deionized water is defined as tap water that has been treated by passing through a standard deionizing resin column. The deionized water should contain no metals or other inorganic compounds (i.e., at or above analytical detection limits). The brushes used to clean equipment as outlined in the following sections, will be stiff plastic bristled and will not be wire-wrapped.

3.12.2 Marking and Segregation of Used Field Equipment

Field or sampling equipment that needs to be repaired shall be identified with a tag indicating date repair requested, problem if known, personnel requesting repair, and if the equipment has been decontaminated. Field equipment needing cleaning or repairs will not be stored with clean equipment or sample containers. Field equipment and/or disposable sample containers that are not used during the course of an investigation may not be placed in storage without being recleaned unless it is the opinion of the field investigator that the materials have not become contaminated during the course of the field investigation. However, equipment and sample containers must be labeled as such.

3.12.3 Safety Procedures to be Utilized During Cleaning Operations

The materials used to implement the cleaning procedures outlined in this section can be dangerous if improperly handled. Caution must be exercised by all personnel, and all applicable safety procedures shall be followed. At a minimum, the following precautions will be taken in the field during these cleaning operations:

- Safety glasses with side shields or goggles, and latex or vinyl surgical gloves or nitrile rubber gloves will be worn during all cleaning operations;
- All rinsing operations will be conducted in the open (never in a closed room); and
- No eating, smoking, drinking, chewing, or any hand-to-mouth contact shall be permitted during cleaning operations.

3.12.4 Storage of Field Equipment and Sample Containers

Decontaminated field and sampling equipment will be stored in covered containers or wrapped in aluminum foil to minimize contamination. All decontaminated equipment, when not in use, will be kept in a designated storage area. Sampling equipment and sample containers will not be stored or transported with any gasoline, diesel, or other fuel containers or gasoline or diesel fuel powered equipment. Decontaminated equipment shall be clearly identified by labeling the wrapping material. Field equipment and reusable sampling containers requiring cleaning or repairs shall not be stored with clean equipment. Instead, equipment requiring repairs will be clearly identified and the repairs documented on the daily field log. Field equipment that requires cleaning

will be segregated from clean equipment and will be stored on plastic sheeting pending cleaning.

3.12.5 Cleaning Procedures

3.12.5.1 Drilling and Direct Push Equipment

All drilling and direct push equipment used during completion of soil borings or installation of the monitoring wells will be steam-cleaned prior to initiating drilling or direct push activities. This will include, but is not limited to, the drill stem, augers, drill bits, direct push rods, core barrels, and tools utilized by the contractor.

The drill rig or direct push rig utilized for the installation of the borings and wells will be decontaminated at the decontamination area prior to the initiation of the drilling or direct push activities. The drill rig or direct push rig itself will not be decontaminated between soil boring or monitoring well locations. Augers and other drilling, direct push, or sampling equipment will be returned to the decontamination area to be cleaned after each use. Cleaning of equipment will be performed using a high-pressure steam cleaner to prevent cross-contamination of the soil borings and monitoring wells. Potable water for steam cleaning will be obtained from the installation water supply system.

Tools and equipment used to measure the depth of well completion materials and water levels (i.e., measuring tapes, electric/electronic probes, tampers, tremie pipes) also will be decontaminated by steam cleaning between well locations to avoid cross-contamination. All equipment and tools will be isolated from contact with the ground by placing them onto sheets of polyethylene plastic.

3.12.5.2 Teflon™, Stainless Steel, or Glass Field Sampling Equipment

When Teflon™, stainless steel, or glass sampling equipment is used to collect samples that contain hard to remove materials, it may be necessary to steam clean the field equipment before proceeding with Step 1. If the field equipment cannot be cleaned utilizing these procedures, it should be discarded.

1. Wash equipment thoroughly with laboratory detergent and tap water using a plastic brush to remove any particulate matter or surface film.

2. Teflon™, stainless steel, or glass sampling equipment will be rinsed thoroughly with potable water from an approved onsite source.

3. Rinse thoroughly with analyte free water.

4. Rinse thoroughly with solvent. Do not solvent rinse PVC or plastic items.

5. Rinse thoroughly with organic/analyte free water. If organic/analyte free water is not available, equipment should be allowed to completely dry. Do not apply a final rinse with analyte water.

6. Wrap equipment completely with aluminum foil or store in Ziploc™ plastic bags to prevent contamination during storage and/or transport to the field.

3.12.5.3 Other Sampling Equipment

Miscellaneous sampling equipment will be washed with laboratory detergent, rinsed with potable water, followed by a thorough deionized water rinse, and dried before being stored. This procedure is not used for any equipment utilized for the collection of samples for trace organic compounds analyses.

3.12.5.4 Trace Organic Sampling Equipment

The following procedures are to be used for all sampling equipment used to collect routine samples undergoing trace organic or inorganic constituent analyses:

- Clean with tap water and soap using a brush if necessary to remove particulate matter and surface films. Equipment may be steam cleaned (soap and high pressure hot water) as an alternative to brushing. Sampling equipment that is steam cleaned should be placed on racks or saw horses at least two ft above the floor of the decontamination pad. PVC or plastic items should not be steam cleaned;

- Rinse thoroughly with tap water;

- Rinse thoroughly with analyte free water;

- Rinse thoroughly with solvent. Do not solvent rinse PVC or plastic items;

- Rinse thoroughly with organic/analyte free water. If organic/analyte free water is not available, equipment should be allowed to completely dry; and

- Remove the equipment from the decontamination area and cover with plastic. Equipment stored overnight should be wrapped in aluminum foil and covered with clean, unused plastic.

3.12.5.5 Field Analytical Equipment and Other Field Instruments

The exterior of sealed, watertight equipment should be washed with a mild detergent (for example, liquid dishwashing detergent) and rinsed with tap water before storage. The interior of such equipment may be wiped with a damp cloth if necessary. Other field instrumentation should be wiped with a clean, damp cloth. Conductivity probes, pH meter probes, etc., should be rinsed with deionized water before storage.

3.12.5.6 Ice Chests and Shipping Containers

If the ice chests (labeled accordingly for sampling use) and reusable containers that will be used to store or ship samples and sample containers are believed to be contaminated, the containers should be washed with laboratory detergent (interior and exterior) and rinsed with potable water and air dried before storage. In the event that an ice chest or other reusable container becomes severely contaminated with concentrated waste or suspected hazardous material, it shall be cleaned as thoroughly as possible, rendered unusable, and disposed of properly.

3.12.6 Disposable Materials

Disposable materials generated from the decontamination and sampling activities will be contained in plastic garbage bags. These materials include, but are not limited to gloves, Tyvek suits, latex booties, paper and plastic. A waste determination will be made on a site by site basis for the disposable materials generated during the sampling programs. The waste determination will be based on both process knowledge of the contents of the site and on existing analytical data from the site, if available. The wastes will be disposed off-site in accordance with all applicable federal and state regulations.

3.13 Characterization and Disposal of Investigative Derived Wastes

Investigative derived wastes (IDW) including soil and waste cuttings and decontamination, development, and purge water will be collected and characterized with the procedures described below.

3.13.1 Soils/Sediment/Waste

Soil, sediment, and waste cuttings (not including material excavated from test trenches during waste characterization) will be collected at the borehole and stockpiled on plastic sheeting or placed in appropriate containers, such as a roll-off box or 55-gallon drum for temporary storage. The temporarily stored solid material will be covered to prevent runoff.

Specific disposal options will be made on a site by site basis, taking into account the types of compounds known to be present, and will conform to applicable installation, local, state, and federal requirements.

3.13.2 Water

Investigative derived water, which will consist of decontamination wash, well development, and purge water, will be temporarily containerized in a portable poly tank. Based on previous and/or current analyses, liquids that would not fail Toxicity Characteristic Leaching Procedure (TCLP) analysis will be properly disposed of in accordance with Georgia State laws. Disposal options will be evaluated on a site by site basis.

3.14 Site Survey

A site survey will be conducted by a registered land surveyor to measure elevations (X, Y, and Z coordinates) of any new monitoring wells. The north side of the top of the casing and the land surface adjacent to each well will be surveyed relative to mean sea level to the nearest 0.01 ft. The horizontal location of each monitoring point and well will also be determined relative to the Georgia state plane system and the Fort Stewart and Hunter Army Airfield installation grid to the nearest 1.0 foot. All surveying will be performed by a certified land surveyor, and will be tied into the existing on-site benchmark.

The location of each soil and waste boring, test pit location, sediment, surface water, and stream gauging location may also be surveyed by hand-held global positioning system (GPS) equipment, as conventional land surveying will be difficult to complete at these areas.

4. Field Documentation Procedures

Information on the sample designation, field documentation, COC, and sample shipment activities are discussed in the following three sections.

4.1 Sample Designation

A numbering system was developed for each type of environmental sample collected during the field investigation for the unique identification of each individual sample. This number system will provide a tracking procedure to allow ease of data retrieval, reduction, and evaluation, and to ensure that sample identifiers are not duplicated. The most important aspect of any sample numbering system that is developed is ensuring the uniqueness of an individual sample number. A listing of the sample identification numbers will be maintained by the project manager and the field task supervisor will ensure that it is universally applied to samples collected during the project.

The numbering system for this project consists of the following components described below:

- The Site number in the format “HA##” for Hunter Army Airfield and “FS##” for Fort Stewart;
- The location type;
- The sample number;
- Water and sediment sample IDs will end with the date (in “mmddyy” format); or
- Soil samples will end with the depth range (in ft).

Blind duplicate samples will be labeled sequentially starting at 1 in the form D1(mmddyy).

Examples of the numbering system are provided below:

- Surface water sample 1 taken from HAA-01 on November 8, 2009 would be: HA01SW001(110809);

- Surface soil sample 4 taken from FST-13 at a depth of 0 to 6 inches would be: FS13SS004(0-0.5).

The location type codes are listed below:

MW – monitoring well;
TW – temporary well;
SB – soil boring (by drilling);
SS – surface soil by trowel or other hand collection method;
SW – surface water by any collection method; and
SE – sediment by any collection method.

In addition to the above nomenclature, the COC will be completed to include both the Sample Type and Sample Matrix using the codes defined below:

Acceptable sample type codes are listed below:

N = normal or primary sample;
FD = field duplicate;
EB = equipment blank;
MS = matrix spike;
SD = matrix spike duplicate; and
TB = trip blank.

The sample matrix will be identified using the following codes:

SO = soil sample;
SE = sediment sample;
WG = groundwater;
WS = surface water;
WB = water collected from borehole or during Geoprobe® investigation; and
WL = leachate.

Field duplicate samples will be given a unique number that is completely different from the original sample following the normal sample pattern. Duplicate samples will be labeled sequentially starting at 1 in the form D1(mmddyy). This number will be recorded in the field logbook, so that the duplicates can be identified at a later date. Samples collected with an additional volume for matrix spike/matrix spike duplicates (MS/MSDs) will be designated on the COC in the remarks column.

Equipment and trip blanks will be identified using the sample type code (i.e., EB or TB) followed by the date as MMDDYY. For trip blanks, if more than one trip blank is submitted to the laboratory on a given day, the sample code will be followed by the a number starting with 1. For example the second trip blank submitted on December 1, 2003 would be identified as follows: TB2(120103).

4.2 Field Activity Documentation

Documentation of field operations and sample custody is achieved through use of ARCADIS pre-printed forms and a bound field logbook. The field log consists of notes and drawings describing the location, field conditions, and method of sample collection and identification. Examples of the pre-printed forms that will be used for this project are provided in Appendix B.

All aspects of sample collection and handling as well as visual observations shall be documented on the forms or in the field logbooks. All sample collection equipment (where appropriate), field analytical equipment, and equipment utilized to make physical measurements shall be identified in the field logbooks. All calculations, results, and calibration data for field sampling, field analytical, and field physical measurement equipment shall be recorded on the forms or in the field logbooks.

In addition, the Field Operations Leader will fill out a daily site activity log that details the activities and/or issues that occurred that day.

All entries in field logbooks or the preprinted sampling logs shall be dated, legible, and contain accurate and inclusive documentation of an individual's project activities. At the end of each day's activity, or of a particular event as appropriate, all documents in the field will be secured by the Field Operations Leader for each task. Once completed, these field logbooks and/or preprinted forms will be maintained as a part of the project files.

All data forms will be completed in indelible black ink. Make an entry in each blank. Where there is no data entry, enter "UNK" for Unknown, "NA" for Not Applicable, or "ND" for Not Done. To change an entry, the person making the change will draw a single line through the mistake, add the correct information above or adjacent to it, and initial the change.

4.2.1 Utilities and Structures Checklist

The Field Operations Leader will check the proposed drilling, sampling, and trenching locations for marked underground utilities, other underground structures and above-ground pipe racks or power lines. A Utilities and Structures Checklist will be completed by the Field Operations Leader for each area to be sampled prior to commencement of field activities.

4.2.2 Location Sketch

All drilling, sampling, and trenching locations will be drawn on a Location Sketch, if a reasonable site map is not available for the area of interest.

4.2.3 Boring/ Well Construction Logs

All soil borings, boreholes, and monitoring well installations completed by the field team will be documented on Boring/Well Construction Logs. The logs document the drilling location, drilling dates and times, drilling personnel, logging personnel, soil descriptions, sample depths, recovery, boring location and volatile organic vapor content. The log also documents the well identification, drilling method, development technique, well construction materials, material depths, and abandonment, if any.

4.2.4 Water Level Measurement Form

All water level measurements will be recorded on a Water Level Measurement Form. The log identifies the measurement location, and measurement date and time.

4.2.5 Sample Key

All samples to be collected will be recorded on the Sample Key. The form identifies all sample locations, sample date and time, and analytical parameters to be collected.

4.2.6 Sampling Location Survey Summary

The sampling location survey summary is to be completed prior to field activities. It will provide northing, easting, and elevation information for site monitoring wells.

4.2.7 Water Sample Log

All surface water samples collected by the field team will be documented on a Water Sample Log. The log identifies the sample identification, duplicate identification, if any, sampling times, location, equipment used, color, odor, appearance, sample parameters, container description, sample preservative, and sampling personnel.

4.2.8 Groundwater Sampling Form

The results of field measurements while purging monitoring wells, prior to collecting a groundwater sample, will be recorded on the Groundwater Sampling Form. This form records time series measurements of conductivity, temperature, turbidity, redox potential, and dissolved oxygen. The form also provides a record of the volume of water purged prior to sample collection.

4.2.9 Well Sampling Summary

A summary of the results of field measurements while purging monitoring wells, prior to collecting a groundwater sample, will be recorded on the Well Sampling Summary Form. This form records collection date and time and the final measurements of conductivity, temperature, turbidity, redox potential, and dissolved oxygen. The form also provides a record of the volume of water purged prior to sample collection.

4.2.10 Water Level/Pumping Test Record

The data from slug tests and pumping tests completed in monitoring wells will be documented on a Water Level/Pumping Test Record. The log identifies the well the test is conducted in, the static water level, the initial displacement, and changes in the water level versus time.

4.2.11 Soil/Sediment Sample Log

All soil samples collected by the field team will be documented on a Soil/Sediment Sample Log. The log identifies the sample identification number, soil type, duplicate

identification, if any, sampling times, depth and location of sample, sampling equipment used, color, odor, appearance, sample parameters, container description, sample preservative, and sampling personnel.

4.2.12 Soil Sampling Summary

All soil samples collected by the field team will be documented on Soil Sampling Summary form. The form identifies the sample identification, sampling times, depth and location of the sample.

4.2.13 Surface Water Sample Log

All surface water samples collected by the field team will be documented on a Surface Water Sample Log. The log identifies the sample identification, duplicate identification, if any, sampling times, sampling location, equipment used, color, odor, appearance, sample parameters, container description, sample preservative, and sampling personnel.

4.2.14 Field Instrument Calibration Form

The field team will record all daily calibration results for field instrumentation on the Field Instrument Calibration Form.

4.2.15 Daily Log

The Daily Log form is used by the Site Manager to record all pertinent sampling events, field observations or other information pertinent to the field effort. The following types of information are generally entered into the Daily Log:

- Date
- Client
- Field Location
- Ambient Weather Conditions
- Field Team
- Instrument Problems
- Site Visitors
- Delays
- Unusual Situations
- Well Damage
- Accidents
- Work Progress
- Quality Control
- Site Schedule

4.2.16 Sample Label

All samples collected by the field team will be properly identified by labeling. Labels will be affixed to the sample bottle prior to the filling of the container(s). Labels are never affixed to lids or caps, although the sample identification information may duplicated on the cap for ease of sample identification. The following labeling information is supplied for every sample bottle.

- Sample Identification Number
- Initials of Sample Collector
- Date and Time of Collection
- Project Number
- Project Location
- Requested Analyses

4.2.17 Chain-of-Custody Form

The COC form is a multi-copy record, which documents the custody of the samples from sample collection through laboratory analysis. It has spaces for signatures of those receiving and relinquishing the samples. The sampler, the individual preparing the samples for shipment, and the receiving individual at the laboratory normally sign the form. An example of this form is provided in Appendix B.

The field personnel collecting the sample will fill out the COC forms. The COC process will be initiated upon sample collection. The field personnel who sign the form will be responsible for the samples until they are transferred to the custody of the laboratory or another custodian. Once the form has been completed, all remaining field sample identification spaces will be crossed through to prevent unauthorized addition of sample information.

The information required on the COC form includes the complete sample identification, date and time of sample collection, number of sample containers, analyses and method required, container type, project number, sample collection personnel, complete name, address, and telephone number of the person analytical reports will be sent to, turnaround time, and signatures of all sample custodians, excluding shippers, such as Federal Express. In addition, the method of shipment, courier name and air bill number must be included. The back copy of the form will be retained. The original form will accompany the sample shipment to the laboratory.

4.2.18 Chain-of-Custody Seal

All coolers submitted to analytical laboratories containing samples collected during the field investigations will be sealed with two signed and dated COC seals. The seals ensure that the samples have not been tampered with during shipment.

4.2.19 Bill of Lading

A bill of lading (air bill) documents receipt of the samples by the carrier. It is not possible for the carrier's representative to sign the COC because it is sealed in the ice chest. Bills of lading are kept on file as part of the sample COC documentation.

4.3 Chain-of-Custody Procedures

The primary objective of the COC process is to create an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis. A sample is considered to be in custody when one of the criteria listed below has been satisfied:

- The sample is in one's actual possession.
- The sample is in one's view after being in one's physical possession.
- The sample is in one's physical possession and is then locked up so that no one can tamper with it.
- The sample is kept in a secured area that is restricted to authorized personnel.

Strict COC procedures will be followed for all collection, handling, and shipping of environmental samples. The field personnel are responsible for the care and custody of the sample collected until the samples are properly and formally transferred to another person or a courier for shipment to the laboratory. To simplify the COC record, as few people as possible will handle the sample during the investigation or inspection and an inventory of the sample containers will be maintained.

A COC form will be completed for all samples collected. A separate COC record will be utilized for each cooler of samples shipped to each laboratory used during this investigation. During the data validation activities, it will be determined whether these procedures were adequately followed.

4.3.1 Transfer of Custody

A COC form will accompany all samples. Prior to shipment or transfer of custody, all samples will be maintained in the custody of the Field Operations Leader. Upon transfer of custody, the Field Operations Leader will verify the information on each sample label and assure that each container is intact and sealed. The Field Operations Leader will then sign and date the COC form. The individuals receiving the samples shall sign, date, and note the time that they reviewed the samples on the COC form. This form documents transfer of custody of samples from the field investigator to another person to the laboratory.

4.3.2 Sample Preparation and Shipment

All samples will be stored at approximately 4°C from immediately after collection until analysis. In the field and during transportation to the laboratory, samples will be kept in coolers on ice, not "blue ice". Ice for coolers will be double-bagged in self-sealing plastic bags. Protective foam or Styrofoam packing will be used to minimize the risk of breakage during transport. When packaging samples for commercial transport, individual bottles will be wrapped separately in padded materials.

The samples are then placed in an ice chest, in direct contact with the ice, lined with a plastic trash bag or other barrier to prevent leakage and Styrofoam, bubble wrap, or similar packaging to prevent breakage. The top two copies of the original COC form will be placed in a plastic bag secured inside the shipping container closed with a chain-of-custody seal.

4.3.3 Laboratory Sample Receiving

After the ice chests are delivered to the laboratory, the samples are logged in, the COC is signed, and the samples are checked for breakage or leakage. The temperature of the ice bath is checked. If the temperature exceeds 4º C or if any other problems are noted, this information is recorded on the COC and the Field Operations Leader or Project Manager will be notified of the problem.

5. References

American Society for Testing and Materials (ASTM) International, 1991. *ASTM D-2488-84, Practice for Description and Identification of Soils (Visual – Manual Procedures), Annual Book of ASTM Standards, American Society for Testing and Materials, Philadelphia, vol. 04.08* 1991.

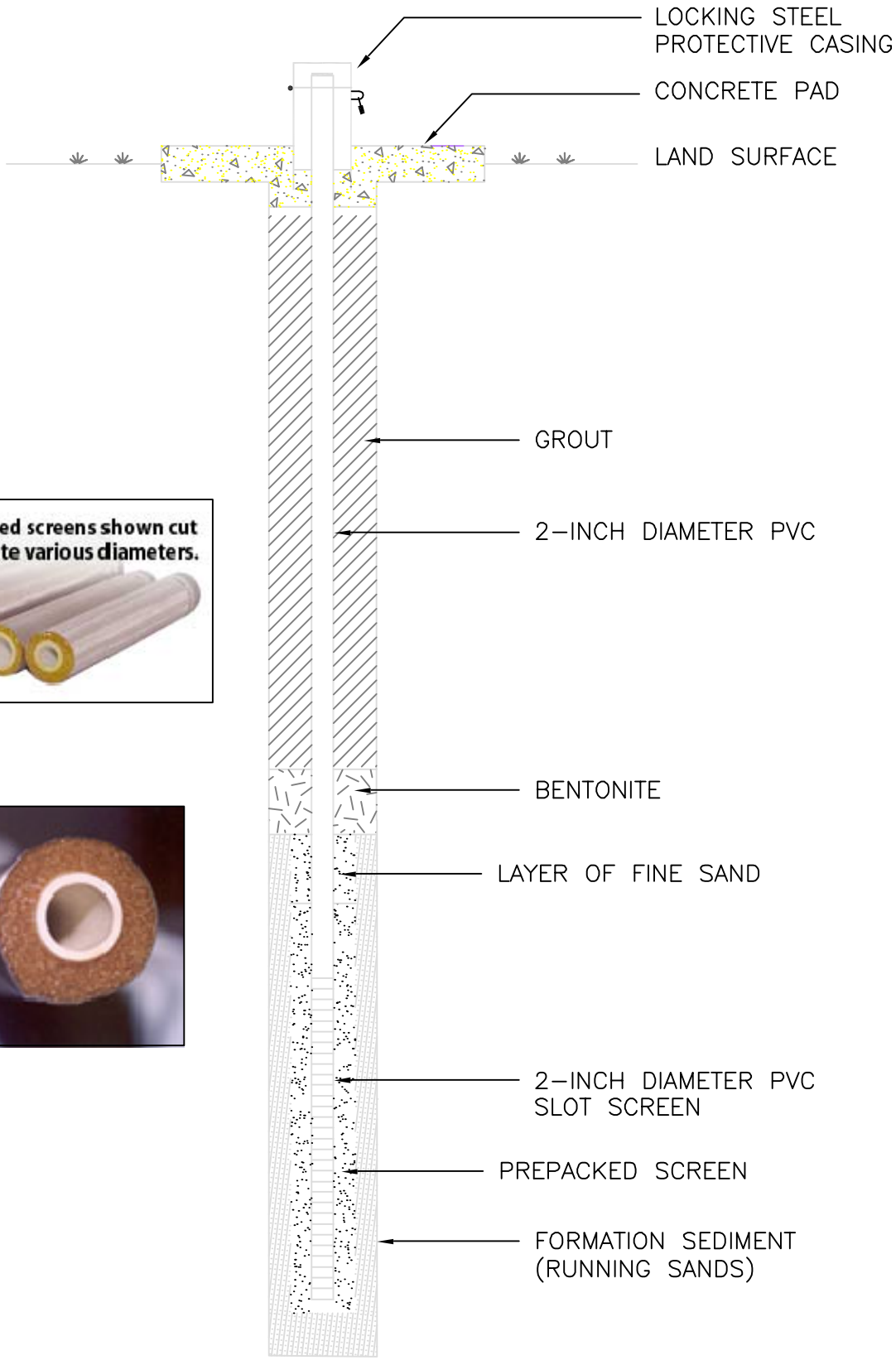
Oficial Code of Georgia Annotated (OCGA), 2008. *Georgia Well Standards 12-5-134* (State of Georgia, 2008).

United States Environmental Protection Agency (USEPA), 2008. Field Branches Quality Systems and Technical Procedures, http://www.epa.gov/region4/sesd/fbqstp/. November 2008.

USEPA, 1996. *"How to Effectively Recover Free Product at Leaking Underground Storage Tank Sites*," (EPA 510-R-96-001), September 1996.

ARCADIS

Figure







NOT TO SCALE

ARCADIS	PRJT MANAGER: / CHECKED BY:	WELL SCHEMATIC FOR WELL WITH PREPACKED SCREEN	FIG–NO 3-1
	DRAWING:		
	PRJT NO:		
	DWG DATE: / DRAFTER:		

ARCADIS

Appendix A

Site-Wide QAPP

ARCADIS
Infrastructure, environment, facilities

Appendix A:

Quality Assurance Project Plan (QAPP)

Fort Stewart Military Reservation and Hunter Army Airfield, Georgia

February 2009

ARCADIS

Jane Kennedy
Project Chemist

Charles A. Bertz, PE
Senior Project Manager

Kurt Beil, PE
Quality Assurance Manager

Appendix A: Quality Assurance Project Plan

Fort Stewart Military Reservation
and Hunter Army Airfield
Georgia

Prepared by:
ARCADIS
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919.854.1282
Fax 919.854.5448

Our Ref.:
GP08HAFS.SW00

Date:
February 3, 2009

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. Any dissemination, distribution, or copying of this document is strictly prohibited.

Table of Contents

Fort Stewart Military Reservation
and Hunter Army Airfield

Revision 0

1. Project Management 1

1.1 Project 1

Technical Staff 4

Laboratories 4

1.2 Problem Definition/Background 6

1.3 Project Description 6

1.4 Data Quality Objectives for Measurement Data 7

1.4.1 Precision, Accuracy, Representativeness, Completeness, and Comparability 7

1.4.2 Objectives for Laboratory Analyses 9

1.4.3 Objectives for Field Measurements 9

1.5 Specialized Training and Certification 10

1.6 Documents and Records 11

1.6.1 Document Control 11

1.6.2 Field Documentation 11

1.6.3.1 Corrections to Field Documentation 12

1.6.3.2 Photographs 12

1.6.3 Laboratory Data Reporting/Record Retention 12

1.6.4 Electronic Data Retention 13

2. Data Generation and Acquisition Elements 14

2.1 Sampling Process Design 14

2.2 Sampling Methods 14

2.3 Sample Handling and Custody 14

2.4 Sample Containers 15

2.5 Sample Preservation and Holding Times 15

2.6 Analytical Methods 16

2.6.1 Standard Laboratory Analytical Procedures 16

2.7 Elements of Quality Control 17

2.7.1 Laboratory Control Samples 18
2.7.2 Matrix Spike and Matrix Spike Duplicate 18
2.7.3 Surrogates 19
2.7.4 Internal Standards 19
2.7.5 Retention Windows 20
2.7.6 Method Blank 20
2.7.7 Equipment Blank 21
2.7.8 Trip Blank 21
2.7.9 Field Duplicates 21
2.8 Instrument/Equipment Testing, Inspection, and Maintenance 22
2.8.1 Maintenance Schedules 22
2.8.2 Spare Parts 22
2.9 Instrument/Equipment Calibration and Frequency 23
2.10 Inspection/Acceptance of Supplies and Consumables 23
2.11 Non-Direct Measurements 23
2.12 Data Management 24
2.12.1 Electronic Data Management 24
2.12.2 Field Data Review 25
2.12.3 Laboratory Data Review 25
2.12.3.1 Laboratory Internal Review 26
2.12.3.2 Analytical Report and Data Management 26
2.12.4 Archiving 27
3. Assessment and Oversight 28
3.1 Assessment and Response Actions 28
3.1.1 Peer Review 28
3.2 Corrective Action 28
3.3 Performance and Data Quality Reports 29
4. Data Validation and Usability 30

4.1 Data Review, Verification, and Validation 30

4.2 Verification and Validation Methods 30

4.2.1 Evaluation of Completeness 31

4.2.2 Evaluation of Compliance 32

4.2.2.1 Tier 2 Verification 32

4.2.2.2 Tier 3 Validation 33

4.2.3 Data Validation Reporting 34

4.2.4 Validation Reports 34

4.3 Reconciliation with Data Usability Requirements 35

5. References 37

Tables

A-1 ARCADIS Technical Team Contact Information

A-2 Project Data Quality Objectives

A-3 Statistical Calculations

A-4 Field Data Quality Objectives and Field QC Collection Frequency

A-5 Method, Containers, Preservation, and Holding Times

A-6 Laboratory Quality Control Sample Frequency

Figure

A-1 Project Organization

Acronyms and Abbreviations

Air Toxics	Air Toxics, Ltd.
ARCADIS	ARCADIS U.S., Inc.
AOC	Area of Concern
APM	Associate Project Manager
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
COC	Chain-of-Custody
DoD	Department of Defense
DQO	Data Quality Objectives
DQM	Data Qualification Module (Earthsoft ®)
DRMO	Defense Reutilization Market Office
EB	Equipment blank
EDD	Electronic data deliverable
FHSO	Field Health and Safety Officer
GA EPD	Georgia Environmental Protection Division
GIS	Geographic Information System
HAAF	Hunter Army Airfield
HSP	Health and Safety Plan
HSRA	Hazardous Site Response Act
HSWA	Hazardous and Solid Waste Amendments
IRP	Installation Restoration Program
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
LTO	Laboratory Task Order
MDL	Method detection limit
Microseeps	Microseeps Laboratories, Inc.
MNA	Monitored natural attenuation
MS	Matrix spike
MSD	Matrix spike duplicate
NELAP	National Environmental Laboratory Accreditation Program
NFG	National Functional Guidelines
PARCC	Precision, accuracy, representativeness, completeness, and comparability

PBA	Performance Based Acquisition
PM	Project Manager
PMP	Project Management Plan
PT	Performance Testing
QA	Quality Assurance
QAO	Quality Assurance Officer
QAM	Quality Assurance Manual
QAPP	Quality Assurance Project Plan
QC	Quality Control
QCP	Quality Control Plan
% R	Percent recovery
RCRA	Resource Conservation and Recovery Act
RL	Reporting Limit
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SOPs	Standard Operating Procedures
SOW	Scope of Work
SWMU	Solid Waste Management Unit
TB	Trip blank
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
USTMP	Underground Storage Tank Management Program
VOCs	Volatile organic compounds

Introduction

The Installation Restoration Program (IRP) activities at Fort Stewart and Hunter Army Airfield (HAAF) are performed in accordance with the provisions of the Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984. The Georgia Environmental Protection Division (GA EPD) issued Hazardous Waste Management Permit No, HW-045(S) which addresses the corrective action requirements for all Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at Fort Stewart. Hazardous wastes generated at HAAF are transferred to the Fort Stewart Defense Reutilization Market Office (DRMO) yard. Corrective action activities performed at HAAF are executed under either the Georgia Hazardous Site Response Act (HSRA) or the Georgia Underground Storage Tank Management Program (USTMP). The goal of the Performance Based Acquisition (PBA) contract is to meet the corrective action requirements for all sites, as defined in the contract and summarized in the Project Management Plan (PMP) (ARCADIS 2008). The full scope of services for this contract is defined in the Contract W91ZLK-05-D-0015: Task 0003 as executed between the Army Environmental Command (USAEC) and ARCADIS U.S., Inc. (ARCADIS). All work performed under the contract will be consistent with all applicable regulatory requirements, and relevant Department of Defense (DoD) and Army policy.

This Quality Assurance Project Plan (QAPP) presents the policies, organization, functions, and Quality Assurance (QA) requirements designed to achieve the data quality objectives for additional contaminant delineation, groundwater monitoring, and remedial attainment to be performed in support of the environmental restoration as identified in the PBA contract This QAPP has been prepared for use by field personnel, data quality reviewers, and laboratories who perform environmental activities to ensure that the data are scientifically valid and usable for the intended purpose. Analytical protocols and documentation requirements will ensure that the data are collected, reviewed, and analyzed in a consistent manner. The method performance criteria and the analytical laboratory quality management program, as well as the protocols set forth in this QAPP, will be employed to establish data usability.

The general guidelines followed in the preparation of this QAPP are presented in EPA Requirements for QAPPs for Environmental Data Operations, EPA QA/R-5 (United States Environmental Protection Agency [USEPA], March 2001). The EPA document was used as guidance and this QAPP presents only the applicable components. Other documents that have been referenced in this QAPP are presented in Section 5.

Personnel participating in the work effort will review this document. All personnel are required to comply with procedures documented in this QAPP and supporting project documents to ensure usability of the data produced.

1. Project Management

1.1 Project

This section provides a description of the ARCADIS organizational structure of personnel involved with this project. The lines of authority are defined and key personnel identified for various activities of the project. The project organization is illustrated in Figure A-1. Table A-1 presents contact information for key ARCADIS personnel. The Project Manager will communicate with the client and regulatory agencies and oversee project execution. The Associate Project Manager and Site Managers will implement project tasks and coordinate with the technical personnel.

ARCADIS, Project Manager

Mr. Charles A. Bertz, P.E.. The ARCADIS Project Manager (PM) is responsible for the overall implementation of the project. The Project Manager is responsible for allocating resources to assure successful execution and completion of the scope of work (SOW). Other duties, as required, may include:

- Approving project-specific procedures and internally prepared plans, drawings, and reports;
- Ensuring technical, schedule, and budget requirements are met;
- Coordinating manpower and other necessary resources with ARCADIS Assistant Project Manager, Site Managers, and technical personnel;
- Reviewing project progress;
- Reviewing all final documents, plans, and drawings; and
- Coordinating document delivery and attaining project milestones.

ARCADIS, Associate Project Manager

Ms. Shelley Gibbons. The ARCADIS Assistant Project Manager (APM) will support the Project Manager in contract management as well as task implementation, document preparation, personnel coordination, and budget management. Ms. Gibbons will perform a key role in ensuring compliance with quality performance objectives. Other duties, as required, may include:

- Coordinating schedules and deliverables with the Site Managers and the Project Manager;
- Ensuring project budget and deliverable schedule compliance;
- Assisting with quality program implementation and coordinating document preparation and submittals;
- Serving as the "collection point" for the project staff reporting any changes or deviations from the project work plan;
- Determining the significance of these changes or deviations to specific work plans and the appropriateness of reporting such items to the corresponding regulatory and facility representatives;
- Arranging subcontractor services; and
- Preparing status update reports and revisions to the project work plan.

ARCADIS, Site Managers

Mr. Andy Davis, P.E. and Mr. Scott Bostian, P.E.. The ARCADIS Site Managers are principally responsible for overseeing day-to-day of task performance including all technical and administrative operations. Other duties required may include:

- Preparing the work plans;
- Selecting and monitoring technical staff;
- Assigning duties to the project staff and orienting the staff to the requirements of the project;
- Coordinating and scheduling field activity resources;

- Performing assessment and oversight duties as described in the PMP, Sampling and Analysis Plan (SAP), and QAPP;
- Reviewing and approving all final reports and other work products;
- Monitoring staff and subcontractor progress; and
- Distributing the QAPP to the ARCADIS technical staff.

ARCADIS, Quality Assurance Officer

Mr. Kurt Beil, P.E.. The ARCADIS Quality Assurance Officer (QAO) is responsible for oversight of all QA/QC activities. He will remain independent of day-to-day direct project involvement, but will have the responsibility for ensuring that all project and task-specific QA/QC requirements are met. He will have direct access to corporate staff, as necessary, to resolve any QA/QC problems, disputes, or deficiencies. The QA Officer's duties include:

- Reviewing and approving the Site-Wide QAPP and site-specific work plans;
- Reviewing and approving substantive changes to the QAPP, SAP, and work plans;
- Reviewing any new work orders with the Project Manager to determine if the QAPP requires modification;
- Providing external review of field and analytical activities by performance of assessment and oversight duties as described in the QCP; and
- Conducting or delegating responsibility for field audits in conjunction with the corporate QA office and maintaining written records of those audits.

ARCADIS, Health and Safety Officer

Mr. Sam Moyers. The ARCADIS Health and Safety Manager reviews and internally approves the Health and Safety Plan (HSP) that will be designed to the specific needs and operations associated with this project. In consultation with the PM, the Health and Safety Manager will ensure that an adequate level of personal protection exists for anticipated potential hazards for field personnel. Identify the Field Health and Safety Officer (FHSO) for each field operation. On-site health and safety will be the responsibility of the FHSO. The FHSO will work in coordination with the PM and the

project Health and Safety Manager to ensure that all activities are conducted safely and in accordance with the HSPA as well as facility requirements.

ARCADIS, Project Chemist

Ms. Jane Kennedy. The Project Chemist is responsible for laboratory selection and oversight, data validation and verification, and hard copy and electronic analytical data oversight. The Project Chemist's specific duties include:

- Developing the Site-Wide QAPP and QA aspects of site-specific work plans;
- Providing external review of analytical activities by performance of assessment and oversight duties;
- Coordinating with the Project Manager, Task Managers, and laboratory management to ensure that QA objectives appropriate to the project are set and that laboratory and field personnel are aware of these objectives;
- Recommending, implementing, and/or reviewing corrective actions taken in the event of QA/QC failures in the laboratory or field;
- Reporting nonconformance with either QC criteria or QA objectives (including an assessment of the impact on data quality or work assignment objectives) to the appropriate managers; and
- Assisting with preparation of reports summarizing data quality.

Technical Staff

The technical staff for this program will be drawn from a pool of technical resources within ARCADIS. The technical staff will implement project and site tasks, analyze data, and prepare reports/support materials. All technical personnel assigned will be experienced professionals who possess the degree of specialization and technical competence required to perform the required work effectively and efficiently. All technical staff will be familiar with the HASP and all relevant Work Plans, standard operating procedures (SOPs), and policies applicable to the field work performed.

Laboratories

Independent laboratories providing analytical services will be chosen as appropriate for the various project requirements including routine monitoring, confirmation sampling,

remedial system monitoring, air analyses, and pilot/benchscale studies. Geotechnical laboratories may be selected based on project requirements and will be identified in the site-specific work plans. Selection criteria for geotechnical laboratories will be based on previous performance on ARCADIS projects or satisfactory recommendations. Analytical chemistry laboratories shall be accredited under the National Environmental Laboratory Accreditation Program (NELAP) and in accordance with Georgia requirements for the project analytical parameters for which accreditation is available through the primary accrediting state. The laboratory QA programs will be reviewed by the ARCADIS Project Chemist, as appropriate. The laboratory will assign an experienced Project Manager to coordinate analytical support for field operations with the ARCADIS Field Operations Manager and Project Chemist.

The analytical chemistry laboratories will provide services under a specified SOW and contractual agreement with ARCADIS. This QAPP incorporates by reference the laboratory, reporting and detection limits, and quality control limits. SOPs will be evaluated by the project chemist to ensure that method performance is acceptable. Appropriate data will be uploaded to the electronic project database for use by the ARCADIS Project Manager and task managers.

The laboratory staff will include a qualified QA Manager, who reports directly to laboratory management independently of the technical operations of the laboratory, to oversee technical adherence to the laboratory QA programs and this QAPP.

The specific duties of the laboratory Project Manager and QA Manager include:

- Reviewing the QAPP and other project requirements to verify that analytical operations will meet project requirements as defined in the project documents;
- Documenting and implementing project QA/QC requirements in the laboratory and reviewing analytical data (10 percent for the QA Manager) to verify that the requirements were met;
- Reviewing receipt of all sample shipments and notifying the Project Chemist of any discrepancies within 1 day of receipt;
- Conducting internal laboratory audits to assess implementation of the laboratory Quality Assurance Manual (QAM) and procedures and providing written records of those audits;
- Rapidly notifying the Project Chemist regarding laboratory nonconformance with the QAPP or analytical QA/QC problems affecting project samples; and

- Coordinating with the project and laboratory management to implement corrective actions as required by the QAPP and internal laboratory QAM.

The principal contract laboratory QAM will be incorporated in this QAPP by reference when the laboratory subcontract is executed. Microseeps Laboratories, Inc. (Microseeps), will provide analytical support for the monitored natural attenuation (MNA) dissolved gas and biogeochemical parameters, and Air Toxics, Ltd. (Air Toxics), will provide analysis of air samples as required. The QAMs for these laboratories shall be retained by the ARCADIS Project Chemist. Ozark Underground Laboratories will provide dye tracer analyses associated with remedial system performance assessments.

Other Subcontractors

Other subcontractors will provide services under the direct supervision or direction of the ARCADIS Project Manager or Task Managers or appropriate designated staff. The drilling, surveying, geotechnical laboratory, and other subcontractors are responsible for performance in accordance with the individual subcontracts and applicable portions of the QAPP and Quality Control Plan (QCP) as defined in each subcontract package. Subcontractors are responsible for rapidly notifying the Site Manager regarding nonconformance with the QAPP or QA/QC problems encountered or observed. Subcontractors must coordinate with the Site Managers to implement corrective actions.

1.2 Problem Definition/Background

Detailed project information is included in the PMP, the SAP, and the PBA contract or, if necessary, will be included in the appropriate work plans that define a particular SOW to be completed.

1.3 Project Description

The field sampling program and field procedures are described in detail in the SAP, and therefore are not repeated in this QAPP. Additional work plans will be prepared as sampling and analytical requirements are defined. Any additional specific QA requirements will be included in specific plans.

The purpose of this QAPP is to provide field, laboratory, and quality assessment personnel with general instructions regarding activities to be performed before, during, and after each sampling effort to ensure generation of usable data. This QAPP

contains general and specific details regarding field sampling, laboratory analytical methods, and data management that apply to the Site. The collection and documentation of data will be performed as described in the following sections to ensure the quality of the collected data.

1.4 Data Quality Objectives for Measurement Data

Table A-2 presents the overall project Data Quality Objectives (DQOs). Additional analytical performance and data review DQOs include precision, accuracy, representativeness, completeness, and comparability (PARCC). These criteria represent qualitative and quantitative objectives that ensure the data are generated that are scientifically valid and usable for the intended purpose. As discussed in *USEPA Guidance on Systematic Planning Using the Data Quality Objectives Process; USEPA QA/G-4*, dated February 2006 and *USEPA Requirements for Quality Assurance Project Plans; USEPA QA/G-5*, dated March 2001, the DQOs are dependent on the intended uses of the data and are based on the premise that the ultimate use(s) of a particular data set should dictate the quantity and quality of these data. These DQOs in conjunction with criteria set forth in this QAPP will be used as a guide for data quality assessment by establishing analytical protocols and documentation requirements that will allow the analytical data to be collected, analyzed, and verified/validated in a consistent manner.

1.4.1 Precision, Accuracy, Representativeness, Completeness, and Comparability

The basis for assessing the elements of data quality is discussed in the following subsections. The contract analytical laboratory precision and accuracy QC limits will be incorporated into the QAPP and updated as appropriate.

Precision measures the reproducibility of repetitive measurements. It is strictly defined as the degree of mutual agreement among independent measurements as the result of repeated application of the same process under similar conditions.

Analytical precision is a measurement of the variability associated with duplicate (two) or replicate (more than two) analyses of the same sample in the laboratory and is determined by analysis of laboratory control samples/laboratory control sample duplicate (LCS/LCSD), matrix spikes/matrix spikes duplicate (MS/MSD), laboratory duplicates and field duplicates. If the recoveries of analytes in the LCS are comparable within established control limits, then laboratory precision is within limits. The contract laboratory control limits will be utilized to evaluate analytical precision.

Total precision is a measurement of the variability associated with the entire sampling and analysis process. It is determined by analysis of duplicate or replicate field samples and measures variability introduced by both the laboratory and field operations. Field duplicate samples and matrix duplicate spike samples are analyzed to assess field and analytical precision. Field duplicate samples will be collected at a minimum 5 percent frequency.

Duplicate results are assessed using the relative percent difference (RPD) between duplicate measurements. The formulas for the calculation of precision are provided in Table A-3 as RPD (used for two measurements), average RPD, relative standard deviation (RSD), and pooled RSD (used for more than two measurements). The proposed precision objective for soil and sediment field duplicates is an RPD of 70 percent and the precision objective for groundwater and surface water field duplicates is an RPD of 40 percent for all parameters analyzed.

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systematic error. It reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. Analytical accuracy is measured by determining the percent recovery (%R) of known target analyses that are spiked into a LCS to a control limit. For organic parameters analyzed by GC and GC/MS surrogate compound recoveries are also used to assess accuracy and method performance for each sample analyzed.

Both accuracy and precision are calculated for preparation or analytical batches, and the associated sample results are interpreted by considering these specific measurements. The formula for the calculation of accuracy is included in Table A-3 as %R from pure and sample matrices. Laboratory precision and accuracy control limits will be incorporated by reference into this QAPP upon selection of the contract laboratory.

Representativeness is achieved through use of the standard field, sampling, and analytical procedures. Representativeness is also determined or influenced by appropriate program design, with consideration of proper sampling locations and collection techniques.

Completeness is calculated for the aggregation of data for each analyte measured for any particular sampling event or other defined set of samples. The number of valid results divided by the number of possible individual analyte results, expressed as a percentage, determines the completeness of the data set. For completeness

requirements, valid results are all results not qualified with an "R" flag/reject or unusable data. For any instances of samples that could not be analyzed for any reason (e.g., holding time violations in which re-sampling and analysis were not possible, or samples spilled or broken), the numerator of this calculation becomes the number of valid results minus the number of possible results not reported.

The formula for calculation of completeness is presented, as follows:

$$\% \text{ completeness} = \frac{\text{number of valid results}}{\text{number of possible results}}$$

The completeness objective for sample matrices collected during these investigations will be at least 90 percent.

Comparability is the confidence with which one data set can be compared to another data set. The objective for this aspect of the QA/QC program is to produce data with the greatest possible degree of comparability. The number of matrices that are sampled and the range of field conditions encountered are considered in determining comparability. Comparability is achieved using standard methods for sampling and analysis, reporting data in standard units, and using standard and comprehensive reporting formats. Complete field documentation using standardized data collection forms shall support the assessment of comparability. Historical comparability is achieved through consistent use of methods throughout the project. EPA approved methods will be utilized for analytical chemistry determinations as available.

1.4.2 Objectives for Laboratory Analyses

The laboratory DQOs include method performance and reporting consistent with criteria presented in the USEPA document entitled "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods," SW-846, Third Edition (as updated) the laboratory QAM and SOPs, this QAPP, and other applicable performance requirements published in EPA method guidance.

1.4.3 Objectives for Field Measurements

Field measurement DQOs for precision, accuracy, and completeness criteria presented in Table A-4 are consistent with the industry acceptance criteria.

Trip blanks (TBs) will accompany samples to be analyzed for volatile organic compounds (VOCs). Field duplicate samples will be collected at a frequency of 5 percent for each analysis and each sample matrix collected. Equipment blanks (EBs) and additional sample volume for MS analysis will be collected at a minimum five percent frequency for each analysis. Temperature blanks will be placed in each sample cooler and the temperature recorded upon laboratory receipt. Frequency for collection of field QC samples is presented in Table A-4.

The field sampling team will also be responsible for collecting additional sample quantities at a frequency of five percent for MS and MSD analyses.

1.5 Specialized Training and Certification

Training shall be provided to all project personnel to ensure compliance with the site specific Health and Safety Plan and technical competence in performing the work effort. Documentation of this training shall be maintained in the records of the contracted organizations. ARCADIS employees who participate in the types of activities defined in the Occupational Safety and Health Administration (OSHA) requirements under Code of Federal Regulations (CFR) 1910.120 complete the 40-hour health and safety training program. Each employee must successfully complete a minimum of 8 hours of refresher training annually to maintain the certification. Employee training records are maintained in the ARCADIS office where the employee resides. Any special requirements for personal possession of certification cards will be adhered to as program appropriate.

All analytical chemistry laboratories performing analyses will be required to maintain current NELAP accreditation for the parameters of interest if accreditation is available. Accreditation certificates, audit reports, and performance testing (PT) data will be reviewed by the Project Chemist, as appropriate to ensure that laboratory capabilities meet or exceed project requirements. Laboratories must also maintain internal training records for technical staff in accordance with standard laboratory practices and certification requirements. The laboratory will provide the applicable training records, including Initial Demonstration of Competence documentation, for review, as deemed necessary, by the ARCADIS Project Chemist.

All subcontractors and their employees will have current and applicable performance and certifications required to perform the assigned SOW. Subcontract agreements will include the specific training and certification requirements and applicable records will be reviewed as appropriate. Subcontractor training and certification documentation will be maintained at the subcontractors' offices.

1.6 Documents and Records

The primary documentation for the project includes field records, analytical data packages, and summary reports. This section describes the level of documentation and record keeping for the central project file that will be maintained by the ARCADIS office in Raleigh, North Carolina.

1.6.1 Document Control

All planning documents will be clearly identified by the document title, revision number, date, and page number in the header of each document page. Planning documents currently in use will be reviewed on an annual basis and any necessary revisions or updates will be amended and distributed to each participating party. Documents prepared in support of the PBA contract will be prepared and distributed as required.

Original field records and laboratory analytical data will be maintained in the ARCADIS Raleigh, NC office.

1.6.2 Field Documentation

Field documentation will include field logbook or daily logs, field sampling logs, instrument calibration logs, and data forms as necessary to provide sufficient information to allow review of field conditions, performance, and sample collection, to evaluate potential impacts to sample and data integrity, and to enable participants to reconstruct events that occurred during the field operations when necessary. Daily logs will also document any deviations from the SAP, QAPP, site or task specific work plans or other applicable planning documents and describe the rationale for the changes.

All entries will be made in waterproof ink, and the time of the entry will be recorded. The top of each page of the field documents will contain the date that the entries on that page were recorded. No pages will be removed from a bound logbook for any reason. Additional details on field documentation are provided in the SAP.

All documentation associated with field activities will be retained in the project file in accordance with the document retention policy stated in this QAPP and the QCP as applicable to the document type.

1.6.3.1 Corrections to Field Documentation

As with all bound data logbooks, no pages will be removed for any reason. If corrections are necessary on any field documentation, they will be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside it. The correction must be initialed and dated. As necessary, corrected errors will include a footnote explaining the correction.

1.6.3.2 Photographs

Photographs will be taken as directed by the Site Manager. Documentation by a photograph will ensure the validity as a visual representation of an existing situation. A log will be developed to track the media that the photos are filed on (e.g., compact disc, floppy disk). Photographs, as developed or transferred to electronic media, shall be compiled into a photograph log and information recorded in field notebooks added to the log with appropriate photographs.

1.6.3 Laboratory Data Reporting/Record Retention

Analytical data reports for all samples will be prepared by the laboratory as a Level II Data Package. The Level II Data Packages will include a fully-executed COC Record, sample receipt checklist, cross-reference table of field samples with laboratory sample number, preparation and analytical batch numbers, analytical results, collection and analysis dates and times, reporting limits (RLs), dilution factors, surrogate recoveries, method blank data. Summary QC data will be provided for LCS, MS accuracy and precision, laboratory replicate precision, laboratory control limits. The analytical report shall include the method detection limits (MDL), and the quantitative RLs. Appropriate data flags identifying any QC result reported outside control limits and an explanation of all data flags applied by the laboratory. The case narrative will present an explanation of all QC results reported outside control limits and samples analyzed at dilutions where all results are non-detect.

Where detailed data validation is required, analytical data reports will include the following items in addition to the elements of the Level II data package, sample aliquots, final extract volumes, run logs, quantitation reports, ion spectra, chromatograms, batch identification report clearly linking all QC results to field sample results, and instrument calibration and tuning information. The laboratory report will include copies of any nonconformance or corrective action forms associated with data generation. This level of analytical report components will be defined as a Level IV data package.

The RLs will be corrected for percent moisture (soils only) and all dilution factors. Any compounds found less than the RL, but greater than the MDL will be reported and qualified with a "J" flag as estimated. Soils will be reported on a dry weight basis.

The laboratory will provide an electronic data deliverable (EDD) that matches all data reported on the hard copy analytical report. Electronic data report requirements are described in Section 2.12.

The laboratory is required to retain all information associated with the analytical operations for samples associated with this project for a minimum of 6 years.

1.6.4 Electronic Data Retention

Electronic data and media retention policies will correlate with hard copy data retention at the laboratories as well as other points of electronic data generation. Additionally, electronic data will be subject to back-up routines that will enable recovery of data that may become corrupted or lost due to instrument, computer, and/or power failures. Electronic media will be stored in climate-controlled areas to minimize potential for degradation. Storage areas will be access limited.

2. Data Generation and Acquisition Elements

2.1 Sampling Process Design

The sampling process design will be presented in future work plans and in the SAP.

2.2 Sampling Methods

The field sampling procedures, sampling methods and equipment are also discussed in detail in the associated SAP. Calibration will be documented on a Field Equipment Calibration form, where each instrumented calibrated is identified along with the date, time, calibration reading, and field staff initials. The field sampling methods are referenced in the following section.

2.3 Sample Handling and Custody

Procedures to insure the custody and integrity of the samples begin at the time of sampling and continue through transport, sample receipt, preparation, analysis and storage, data generation and reporting, and sample disposal. Records concerning the custody and condition of the samples are maintained in field and laboratory records. All samples will be uniquely identified, labeled, and documented in the field at the time of collection and recorded on the Chain-of-Custody (COC) form. Samples collected for laboratory QC will be clearly identified on the COC (e.g. MSs). Details for completing the COC are included in Section 4.2.17 of the SAP. Field custody procedures are presented in Section 4.3 of the SAP.

Samples collected in the field will be transported to the laboratory or field testing site as expeditiously as possible. Samples requiring preservation at 4 degrees +/- 2 degrees Celsius (^{o}C) will be packed in ice or chemical refrigerant to keep them cool during collection and transportation. Any concerns and/or deviations will be reported to the contractor immediately.

Once the samples reach the laboratory, they will be checked against information on the COC form for anomalies. The condition, temperature, and appropriate preservation of the samples will be recorded by the laboratory on a sample receipt checklist, and will be made part of the permanent project custody records. The occurrence of any anomalies in the received samples and their resolution shall be documented in laboratory records. All sample information shall then be entered into the laboratory tracking and data management system. The laboratory PM shall review the log-in for accuracy and compliance with project requirements. Procedures ensuring internal

laboratory COC shall also be implemented and documented by the laboratory. Specific instructions concerning the analysis specified for each sample shall be communicated to the analysts. Analytical batches shall be created, and laboratory QC samples shall be introduced into each batch.

While in the laboratory, samples shall be stored in limited access, temperature controlled areas. Refrigerators, coolers and freezers used for sample storage will be monitored for temperature 7 days a week. Acceptance criteria for the temperatures of the refrigerators and coolers are 4°C to 2°C. Acceptance criteria for the temperatures of the freezers shall be less than 0°C. All of the cold storage areas shall be monitored by thermometers that have been calibrated with a NIST traceable thermometer. As indicated by the findings of the calibration, correction factors shall be applied to each thermometer. Records that include acceptance criteria shall be maintained. Samples shall be stored separately from standards. Samples shall be stored after analysis until disposed of in accordance with applicable local, state, and federal regulations. Disposal records shall be maintained by the laboratory. SOPs describing sample control, custody, and disposal shall be maintained by the laboratory.

2.4 Sample Containers

The volumes and containers required for the sampling activities are listed in Table A-5. The laboratory will provide new, pre-cleaned sample containers. The laboratory shall use an approved specialty container supplier that prepares the containers in accordance with USEPA bottle preparation procedures. TBs will be transported to the site inside the same cooler/box as the VOC vials.

Sample container lids will not be mixed. All sample lids must stay with the original containers as provided by the supplier. Bottle lids (with any associated bottle) exhibiting cracks, splits, or chips shall be appropriately discarded.

2.5 Sample Preservation and Holding Times

New and pre-preserved (as appropriate) containers obtained from the laboratory shall be used for all samples requiring preservation. Chemicals used by the laboratory for preservation will be reagent-grade chemicals. The laboratory shall maintain traceability records for all preservatives in the event of potential contamination of samples. The laboratory must ensure that preservatives used in containers supplied will not expire within the anticipated time of sample collection completion. Each bottle received from the laboratory must be clearly labeled with the type of chemical preservative in the bottle and the test parameters that will be determined from the sample collected in the

container. Sample containers will not be stored at the site for longer than 30 days. Bottle orders and any additional preservative requirements will be submitted to the laboratory 5 working days prior to commencement of field operations to allow supplies of clean, fresh containers and preservatives to be shipped to the facility.

Sample preservation will be verified on receipt at the laboratory with the exception of aqueous VOC samples. VOC sample preservation shall be verified prior to analysis. The preservation or pH check will be recorded on the sample receipt form or other appropriate logbook. If the samples are improperly preserved, a corrective action form will be submitted to the laboratory project manager for follow-up action. The laboratory will notify the ARCADIS Site Manager or Project Chemist to implement corrective actions in the field to ensure sufficient preservative is added at the time of sample collection.

Sample holding times will be based on published USEPA guidance and will be calculated for the date and time of collection. A list of preservatives and holding times for each type of analysis are presented in Table A-5. Additional preservation requirements and holding times for non-target analyses are listed in 40 CFR Part 136. Preservatives and holding times not listed in Table A-5 applicable to a specific task will be listed in the applicable SAP or work plan.

2.6 Analytical Methods

The primary analytical methods anticipated to be utilized for samples collected Table A-5. All methods will be USEPA approved/published. Additional USEPA approved methods, which may be utilized, are published in references listed below. Specific performance criteria, including QA protocols, for each analytical method, are documented in the published methods, laboratory SOPs, and the laboratory QAM. The QAM for each analytical laboratory performing work be reviewed as part of the procurement process and laboratory SOPs will be examined during onsite audits or as necessary. QAM is a generic term for the laboratory QA document, which describes the laboratory program to ensure data of known quality are generated. The contracted laboratory QAM will be incorporated by reference into this QAPP upon execution of the contract for analytical support.

2.6.1 Standard Laboratory Analytical Procedures

All standard analytical methods performed will be USEPA approved. The analytical methods are referenced in:

- *Test Methods for Evaluating Solid Waste, Physical Chemical Methods*, 3rd edition, SW-846, 1997.

- 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act*; and

- *Methods for Chemical Analysis of Water and Wastes*, EPA-600/4-79-020, Revised March 1983.

The laboratory will perform all methods in accordance with the appropriate USEPA-approved methods and the laboratory specific SOPs for compliance with this QAPP and other project-specific requirements. The laboratory shall have method specific SOPs for all methods performed. The SOPs will detail method set-up, calibration, performance, and reporting criteria in accordance with SOP preparation under NELAP guidance and requirements. Method performance will be in strict compliance with the SOP and referenced method. Laboratory SOPs will include any modifications to the published method and will indicate actual performance protocols performed by the laboratory. The laboratory will update SOPs in accordance with NELAP requirements. The ARCADIS Project Chemist must approve any changes to the method performance acceptance criteria

The laboratory must notify the Project Chemist of any updated or revised RLs or performance control criteria prior to initiation of field operations. Required sample or extract dilutions to complete the analyses within method performance criteria may impact RLs. All required sample dilutions will be noted in the analytical report and explained in the case narrative. The laboratory shall make every effort to report all compounds/analytes at the lowest technically achievable limit to meet the risk screening standard requirements. The changes/elevations in limits will be evaluated to determine potential impact on DQOs. Any additional methods required for future projects will be specified in the SAP or Work Plan.

2.7 Elements of Quality Control

This section presents QC requirements relevant to analysis of environmental samples that shall be followed. The purpose of this QC program is to produce data of known quality that satisfy the project objectives and that meet or exceed the requirements of the standard methods of analysis. This program provides a mechanism for ongoing control and evaluation of data quality measurements through the use of QC materials.

Laboratory QC samples (e.g., blanks and LCSs) shall be included in the preparation batch with the field samples. Preparation batch is a number of samples (not to exceed 20 samples) similar in composition (matrix) and that are extracted or digested at the same time and with the same lot of reagents. MS and MSD samples do not count as environmental samples. The term analytical batch also extends to cover samples that do not need separate extraction or digestion (e.g., VOCs analysis by purge and trap). The identity of each preparation batch will be unambiguously reported with the analyses so that a reviewer can identify the QC samples and the associated environmental samples. The type of QC samples and the frequency of use of these samples are discussed in the following section. The laboratory will provide spike results from site-specific field samples of groundwater and soil, not from another client or site. Additional QC samples may be added to those required by the method to ensure accurate and precise data. The frequency of analysis of laboratory QC samples is presented in Table A-6.

2.7.1 Laboratory Control Samples

The LCS is analyte free water (aqueous samples) or clean sand (soil/sediment matrix) spiked with known concentrations of specific analytes. The LCS shall be carried through the complete sample preparation and analysis procedure. The LCS is used to evaluate each preparation batch and to determine if the method is in statistical control. One LCS will be included with every analytical batch. All target analytes will be spiked in the LCS.

In accordance with method criteria and laboratory SOPs, an LCS analyte outside the recovery acceptance limit mandates corrective action unless the out of control scenario does not impact data usability. Where corrective action is required and after the system problems have been resolved with system control re-established, all samples in the analytical batch will be reanalyzed for the out of control analyte(s). When an analyte in an LCS exceeds the upper or lower control limit and no corrective action is performed, the appropriate validation flag, as described in the data validation section, will be applied to all affected results. LCS results will be compared to the laboratory LCS control limits.

2.7.2 Matrix Spike and Matrix Spike Duplicate

An MS is an aliquot of sample spiked with known concentrations of specific compounds. The spiking occurs prior to sample preparation and analysis. The laboratory will provide the results at a minimum of one MS and one MSD sample for every 20 environmental samples. The MS and MSD samples will be designated on the

chain of custody (COC) form. Additional sample quantities will be collected so that MS and MSD analyses can be performed on the environmental samples collected at the Site. The full list of target analytes will be spiked into the samples utilized for the MS and MSD.

An MS is used to document the bias of a method in a given sample matrix. MS and MSD results are used to evaluate the matrix effect, not to control the analytical process. The recoveries of analytes in the MS/MSD will be compared to the laboratory QC acceptance limits 2. If the recoveries for the MS or the MSD are outside the QC acceptance limits, sample data will be evaluated by the Project Chemist to determine extent of impact.

2.7.3 Surrogates

Surrogates are organic compounds that are similar to the target analyte(s) in chemical composition and behavior in the analytical process, but that are not normally found in environmental samples. Surrogates are used to evaluate accuracy, method performance, and extraction efficiency. Surrogates are added to samples, controls, and blanks, in accordance with the method requirements.

When the recovery of a surrogate is outside the acceptance limits, corrective action steps must be taken. After the system problems have been resolved and system control has been re-established, the sample is re-prepared and re-analyzed. Re-preparation and re-analysis is not required if the laboratory is able to provide objective evidence with the case narrative of the final report documenting matrix interference (that is, unresolved co-eluting peaks on reconstructed ion chromatograms, or observations about visibly oily samples). If corrective actions are not performed or are ineffective, the appropriate validation flags are applied to the sample results. Re-extractions will be done within the holding times. Laboratory surrogate recovery limits will be included in each analytical report.

2.7.4 Internal Standards

Internal Standards (ISs) are measured amounts of certain compounds added after preparation or extraction of a sample. They are used in an IS calibration method to correct sample results affected by column injection losses, purging losses, or viscosity effects. ISs are added to samples, controls, and blanks, in accordance with the method requirements.

When the IS results are outside of the acceptance limits, corrective actions shall be performed. After the system problems have been resolved and system control has been re-established, samples analyzed while the system was malfunctioning are re-analyzed. If corrective actions are not performed, the appropriate validation flag, as described in the data validation section of this QAPP.

2.7.5 Retention Windows

Retention time windows are used in GC analysis for qualitative identification of analytes. They are calculated from replicate analyses of a standard on multiple days. The procedure and calculation method are given in SW-846 Method 8000A.

When the retention time is outside of the acceptance limits, corrective actions will be performed. After the system problems have been resolved and system control has been re-established, samples analyzed since the last acceptable retention time check are re-analyzed. If corrective actions are not performed, the appropriate validation flag, as described in the validation section, will be applied to the sample results.

2.7.6 Method Blank

A method blank is an analyte free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank will be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process. A method blank will be included in every analytical batch and representative for each sample matrix.

The presence of analytes in a method blank at concentrations greater than the MDL or RL for common laboratory contaminants indicates a need for corrective action. Corrective actions will be performed to eliminate the source of contamination prior to proceeding with analysis. After the source of contamination has been eliminated, all samples in the analytical batch will be re-prepared and re-analyzed. No analytical data will be corrected for the presence of analytes in blanks. When an analyte is detected in the method blank, but not in the associated samples, no corrective action is necessary. When an analyte is detected in the blank and in the associated samples and corrective actions are not performed, the appropriate validation flag, as described in the data validation section, will be applied to the sample results.

2.7.7 Equipment Blank

An EB is a sample of organic free water (for VOCs analyses) poured into, or over, or pumped through the sampling device, collected in the sample bottle, and transported to the laboratory for analysis. EBs are used to assess the effectiveness of equipment decontamination procedures.

EBs are collected immediately after the equipment has been decontaminated. The frequency requirements for collecting EBs are a minimum of five percent of the environmental samples. The blank shall be analyzed for all laboratory analyses requested for the environmental samples collected at the Site. When an analyte is detected in the EB the appropriate validation flag, as described in the data validation section, shall be applied to all sample results from samples collected. It should be noted that the laboratory will supply the organic free water. A sample aliquot of the organic free water will be submitted for the analysis of all parameters of interest.

2.7.8 Trip Blank

The TB consists of a VOC sample vial filled in the laboratory with ASTM Type II reagent grade water, transported to the sampling site, handled like an environmental sample and returned to the laboratory for analysis. TBs are not opened in the field. TBs are prepared only when VOC samples are taken and are analyzed only for VOC analytes. TBs are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures.

When an analyte is detected in the TB the appropriate validation flag as described in the validation section, shall be applied to all sample results from samples in the cooler with the affected TB. One TB of either soil or liquid matrix shall accompany each cooler of samples submitted to the laboratory for VOC analysis.

2.7.9 Field Duplicates

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field such that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Specific locations are designated for collection of field duplicate samples prior to the beginning of sample collection.

Field duplicate sample results are used to assess precision, including variability associated with both the laboratory analysis and the sample collection process. Field duplicates will be collected at a frequency of 5 percent of samples collected. Analytical results for field duplicate will be assessed during the data validation process. Specific locations will be designated for collection of field duplicate samples prior to the beginning of sample collection. Control limits for evaluation of precision for field duplicates will be 40 percent for aqueous samples and 70 percent for soil/sediment samples.

2.8 Instrument/Equipment Testing, Inspection, and Maintenance

Field equipment testing (calibration) and inspection will be completed daily and documented on the daily calibration form. Field equipment maintenance will be completed on an as needed basis.

Maintenance responsibilities for laboratory instruments are assumed by the respective Laboratory Facility Manager. The managers then establish maintenance procedures and schedules for each major equipment item. This responsibility may be delegated to field or laboratory personnel, although the managers retain responsibility for ensuring adherence to the prescribed protocols. All field instrument/equipment will be inspected prior to the project initiation.

2.8.1 Maintenance Schedules

The effectiveness of any maintenance program depends to a large extent on adherence to specific maintenance schedules for each major equipment item. Other maintenance activities are conducted as needed. Manufacturers' recommendations provide the primary basis for the established maintenance schedules, and manufacturers' service contracts provide the primary maintenance for many major instruments.

2.8.2 Spare Parts

Along with a schedule for maintenance activities, an adequate inventory of spare parts is required to minimize equipment downtime. The inventory includes those parts (and supplies) that are subject to frequent failure, have limited useful lifetimes, or cannot be obtained in a timely manner should failure occur.

Field sampling task leaders and the respective laboratory managers are responsible for maintaining an adequate inventory of spare parts. In addition to spare parts and

supply inventories, the contractor shall maintain an in house source of backup equipment and instrumentation.

2.9 Instrument/Equipment Calibration and Frequency

Field equipment will be calibrated at the frequency recommended by the manufacturer's specifications and/or described by the analytical method.

Analytical instruments will be calibrated in accordance with the procedure specified in the analytical methods. All analytes that are reported shall be present in the initial and continuing calibrations, and these calibrations must meet the acceptance criteria specified in the analytical method. Records of standard preparation and instrument calibration will be maintained by the laboratory. Records shall unambiguously trace the preparation of standards and their use in calibration and quantitation of sample results. Instrument calibration will be checked using all of the analytes. All calibration criteria will satisfy SW-846 requirements at a minimum. The initial calibration will be checked at the frequency specified in the methods using materials prepared independently of the calibration standards.

2.10 Inspection/Acceptance of Supplies and Consumables

The laboratory will inspect supplies and consumables prior to their use in analysis. The materials description in the methods of analysis shall be used as a guideline for establishing the acceptance criteria for these materials. Introduction of interfering compounds into the analytical process will be monitored by analysis of method blanks. Purity and efficiency of reagents shall be monitored by analysis of LCSs. An inventory and storage system for these materials will assure use before manufacturers' expiration dates and storage under safe and chemically compatible conditions.

Sample containers will be laboratory supplied. All containers will be certified clean and the certificates will be retained by the laboratory. Containers are stored in clean areas to prevent exposure to fuels, solvents, and other contaminants.

2.11 Non-Direct Measurements

Non-direct measurement data will be entered into the project file. Data will be entered from forms, tables and data packages as presented in the documents/reports. All data entry will be peer reviewed prior to finalization.

2.12 Data Management

The data reduction, review, reporting, and validation procedures described in this section will ensure that (1) complete documentation is maintained, (2) transcription and data reduction errors are minimized, (3) the data are reviewed and documented, and (4) the reported results are qualified, as necessary. Laboratory data reduction and verification procedures are required to ensure that the overall objectives of analysis and reporting meet method and project specifications.

2.12.1 Electronic Data Management

Data management protocols track samples and results from work plan implementation to the final report. The field data include approved work planning tables, labels, field sampling forms, COC, and logbooks. Geographic coordinates will be generated for all sample locations in electronic format. The Field Operations Leader or designee will review all field data for accuracy. Field data will be collected using portable data acquisition (PDA) devices or manually entered into a database or spreadsheet.

The laboratory will provide an EDD for all analytical reports. The EDD will be in the format required for the project environmental database and include, at a minimum, the following information:

- Laboratory information – Laboratory name, client name, laboratory work order, client project number, and date received;
- Sample information – Laboratory project number, sample identification, laboratory sample identification, date sampled, time sampled, matrix;
- Analytical Data – Sample Delivery Group (SDG), test code, test name, analyte, analyte type, sample type, CAS number, date and time prepared, date and time analyzed, preparation batch identification, analytical batch identification, result, laboratory qualifier, MDL, RL, and dilution factor; and
- QC Data – All fields provided for analytical data will also be populated for method blanks, surrogates for all samples, LCS, MS/MSD, and laboratory replicates. QC sample data will also include QC Sample Type, recoveries, RPDs, control limits, and any associated qualifiers. Calibration data are not required.

The Project Chemist, Data Manager, or designee will review approximately 5 percent of electronic laboratory and field data to verify the results against the hard copy and check for transcription errors. A greater than 15 percent discrepancy rate in two consecutive datasets will require additional review and verification. Electronic data will match the hard copy data for all results. Significant figures and rounding routines may differ slightly based on the program utilized to generate hard copy reports and electronic files, but may not differ to the point of impacting data integrity or usability. The results will be transferred to a centralized database. The ARCADIS Data Manager or data validator will add any data qualifiers. The Data Manager will generate data tables for the project team as required. The Project Chemist and Site Manager will resolve discrepancies between the planned activities and actual data collected and document the findings in the data report. The central database will be stored in a secure area with access limited to data management specialists designated by the Project Manager. The central database will be electronically linked to a geographic information system/computer-aided design (GIS/CAD) systems, risk assessment programs, and other final data user models and statistical programs. Data users may enter additional electronic data such as risk-based criteria for comparison of the results. This data will be stored in separate tables in the database and linked to the actual results. Any data from outside sources will include a description of the data, a reference to the source, and the date updated. The outside data will be checked prior to use in order to verify that the most current values are used.

2.12.2 Field Data Review

All field data and the required forms will be reviewed by the author prior to submittal to the Site Manager or designee for review. Any field forms or documentation requiring amendments and/or corrections will be clearly documented on the corresponding day's field form or logs and initialed. Corrections will be made by a single line, followed by initials. The Site Manager or designee will verify the field review then submit the documents for data entry and/or retention in the project file.

2.12.3 Laboratory Data Review

The analytical laboratory will perform a series of internal reviews/audits prior to submittal of the final data package.

2.12.3.1 Laboratory Internal Review

In each laboratory analytical section, the analyst performing the tests shall review 100 percent of the data. After the analyst's review has been completed, 100 percent of the data shall be reviewed independently by a senior analyst or by the supervisor of the respective analytical section using the same criteria.

Data qualifiers shall be added by the laboratory supervisor of the respective analytical section, after the first and second level of laboratory data reviews have been performed. Analytical batch comments shall be added to the first page/Case Narrative of the data report packages to explain any non-conformance or other issues. When data are qualified, the laboratory supervisor shall apply a final qualifier to any data that have been affected by multiple qualifiers. This final qualifier shall reflect the most severe qualifier that was applied to the data, that is, all data will have only one data qualifying flag associate with it.

The laboratory QA section shall review 10 percent of the completed data packages, and the laboratory project manager shall perform a sanity check review on all the completed data packages. The laboratory shall apply appropriate data qualifying flags to any impacted field sample including field QC samples.

The laboratory will submit the analytical data package and EDD to ARCADIS via email and on compact disk. The analytical report will be complete and signed and submitted in portable document format (pdf). The EDD shall be prepared in accordance with the protocols defined by ARCADIS for input into the electronic data management system.

2.12.3.2 Analytical Report and Data Management

Upon submittal of the data package (report and EDD), the data will be logged in by the data manager as received and the EDD loaded into the project database. The Data Manager will forward the analytical data to the Project Chemist or designee for review and validation in accordance with Section 3 of this QAPP. The data package, at a minimum, will be reviewed to assure completeness and that the EDD matches the report. Once the analytical data package is determined to be final and complete and as validated, the data with any applicable data qualifiers will be added to the project database. Any data validation reports will be submitted to the Data Manager archiving with the analytical report. The data will then be available for distribution to the project team. Upon completion, the analytical data package, EDD, and validation report will be submitted to the project file.

2.12.4 Archiving

The laboratory shall maintain electronic and hardcopy records sufficient to re-create each analytical event conducted for a minimum of 6 years. Data will be accessible within 7 working days upon request. ARCADIS will retain the project files for at least 6 years.

3. Assessment and Oversight

3.1 Assessment and Response Actions

Assessment activities include management and assessments, technical systems audits, and performance evaluations. Management assessments include routinely scheduled meetings and conference calls to evaluate staff utilization. Assignment of qualified personnel to projects, maintenance of schedules and budgets, and quality of project deliverables are verified as part of these assessments. Performance evaluations are used to ensure that trained and qualified staff is utilized for the project. Technical assessment activities include peer review, data quality reviews, and technical system audits (i.e., laboratory and field). Technical systems audits include review and evaluation of field and laboratory performance to assess the implementation of quality programs and directives specifically for the project. Procedures for assessment and audit of data quality are described in Section 4 of this QAPP. Procedures for peer review and technical assessments are summarized briefly below. Both the overall and direct technical assessment activities may result in the need for corrective action. The procedure for corrective action response is summarized below.

3.1.1 Peer Review

All project deliverables including work plans, SAPs, draft and final reports, and technical memoranda will be peer reviewed by ARCADIS. The peer review process provides for a critical evaluation of the deliverable by an individual or team to determine whether the deliverable will meet the established criteria, DQOs, technical standards, and contractual obligations. The PM or APM will assign peer reviewers, depending on the nature and complexity of the project, when the publication schedule is established. The PM will be responsible for ensuring all peer reviewers participate in the review process and approve all final deliverables. The QA Manager is responsible for verifying that project documents were generated in accordance with the project requirements.

3.2 Corrective Action

Corrective actions will be implemented as necessary to insure that project activities are performed and data are generated in accordance with the project quality documents. In conjunction with the QA Manager and Project Chemist, the Project Manager and Site Managers are responsible for initiating and implementing corrective action in the field and in the office. The laboratory project manager, in conjunction with the laboratory technical staff and QA manager, is responsible for implementing corrective action in

the laboratory. It is the combined responsibility to insure that all analytical procedures are followed as specified and that the data generated meet the prescribed acceptance criteria. Specific corrective actions necessary will be clearly documented in the logbooks or analytical reports.

In all cases in which corrective actions of field procedures are required, a written report describing the nature of the problem, an evaluation of the cause, if known, and the action taken will be prepared by the ARCADIS Site Manager or the ARCADIS QAO. The report will be distributed to the ARCADIS PM, the ARCADIS QAO (if not preparing the report), and the ARCADIS Project Director.

Any corrective actions taken by the contract laboratory will be reported to the ARCADIS Project Chemist. The laboratory will include in each data package a discussion of the problems encountered and corrective actions taken. In addition, the laboratory will maintain a file that documents all corrective actions taken. Reports of corrective actions undertaken during laboratory analysis will be documented, as appropriate, in the Data Validation Report.

3.3 Performance and Data Quality Reports

Data Validation Reports - Data validation reports will be completed by the Project Chemist as soon as possible after receipt of the data from the laboratory (i.e., the goal is within 3 weeks). Impacts on the usability of the data will be tracked by adding qualifiers to individual data points as described in Section 4.

Serious analytical problems will be reported immediately to the ARCADIS Project Chemist by the laboratory PM. The ARCADIS Project Chemist will notify the ARCADIS Site Manager and PM to evaluate necessity for resampling or additional sample collection. Time and type of corrective action (if needed) will depend on the severity of the problem and will be related to overall project importance of the data points. Corrective actions may include altering procedures in the field, conducting an audit, resampling or modifying laboratory protocol.

Project Status Reports - Project status reports are completed by the PM to document the overall assessment of the project on a monthly basis. The Project Status Report tracks the overall quality of performance relative schedule, budgets and other issues.

4. Data Validation and Usability

The general procedures for data validation and usability are described below. These procedures will be adapted, if necessary, to meet project-specific or activity-specific requirements. Data validation and usability criteria set forth in this QAPP shall be followed unless otherwise amended in the SAPs or Work Plans which will address any modifications to data review criteria not included in this QAPP.

4.1 Data Review, Verification, and Validation

Data generated will be reviewed for conformance with the QAPP, SAP and other applicable work plans, as well as specific project requirements. QA information provided by the laboratory will be evaluated relative to the methods performed, the laboratory SOPs, the laboratory QAM, COC requests, Laboratory Task Orders (LTOs) or similar directive document, and this QAPP, as appropriate. The laboratory will be responsible for internal review of all calibrations, raw data, and calculations. The final analytical report will be reviewed by the laboratory PM and other appropriate laboratory management personnel for compliance with the above listed documents including peer and supervisory review prior to releasing data to ARCADIS.

The ARCADIS Project Chemist and data validation team will perform additional verification and validation of laboratory data to assess the quality and usability of the data generated. Field record review will include instrument calibration logs, sampling logs, COC records, field notes, and field parameter results. The field information assessment will evaluate the potential for impact to sample integrity and chemical data quality.

Chemical analytical data collected will be reviewed and, as appropriate, qualified using guidelines established in the USEPA National Functional Guidelines (NFGs) modified to incorporate method and project-specific requirements. The analytical data review will be performed under either of two levels: Tier 2 or Tier 3. The frequency and components included in each tier are defined in Sections 4.2.2.1 and 4.2.2.2.

4.2 Verification and Validation Methods

The data review scheme for analytical results from the receipt of the analytical data through the validated report is described below. The laboratory is responsible for performing internal data review. The data review by the analytical laboratory will include 100 percent analyst review, 100 percent peer review, and 100 percent review by the laboratory project manager to verify that all project-specific requirements are

met. The laboratory QA Officer will perform a review on 10 percent of the data packages. All levels of laboratory review will be fully documented and available for review if requested or if a laboratory audit is performed.

After receipt from the laboratory, project data will be verified and validated by ARCADIS or experienced contract personnel using the following steps.

4.2.1 Evaluation of Completeness

The Project Chemistry Team will verify the following report content for all data, as appropriate, for the required level of data validation:

- Laboratory information matches the field information;
- Fully executed COC records;
- Report completeness and conformance with COC, LTO, QAPP, Site-Specific Work Plan, and other project requirements;
- Case narrative describing any out-of-control events and summarizing analytical observation or non-conformances;
- Sample receipt information;
- Data report forms;
- QA/QC summary data;
- Initial and continuing calibration information (Tier 3 validation);
- Instrument tuning data (Tier 3 validation);
- Quantitation reports (Tier 3 validation);
- Batch and/or run logs (Tier 3 validation);
- Chromatograms (Tier 3 validation); and
- Documentation of any QC problems.

If the data package is incomplete, the Project Chemist will contact the laboratory, which must provide all missing information within a reasonable timeframe (i.e., 1 to 2 days).

4.2.2 Evaluation of Compliance

The data validation procedures are briefly outlined below:

- Electronic checking routines (Tier I validation) will be utilized to check 100 percent of the field and laboratory QC data (LCS, MS/MSD, blanks) to verify that holding times and acceptance and performance criteria were met and to note any anomalous values. Appropriate data qualifiers (Section 4.3) will be applied to the data where deficiencies are identified;

- All chemistry data generated with the exception of waste characterization, storm water discharge, and remedial system operational monitoring will undergo a Tier 2 validation. Initially, one SDG for each matrix will undergo the detailed Tier 3 validation to ensure laboratory performance;

- All data will be checked to ensure all analytical problems and corrections are reported in the case narrative and that appropriate laboratory qualifiers are added; and

- For any problems identified, review concerns with the laboratory, obtain additional information if necessary, and check all related data to determine the extent of the error. Data qualifiers will be applied to the analytical results to indicate potential limitations on data usability.

The data validation team will follow qualification guidelines in USEPA *Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review*, EPA 540/R-99/008, October 1999; USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA 540/R-01/008, July 2002; USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA 540/R-04/004, October 2004; Laboratory QAM; Laboratory Methods; and the QAPP with performance criteria based on the published analytical methods and laboratory established control limits.

4.2.2.1 Tier 2 Verification

Tier 2 data verification includes a review of all sample documentation coupled with electronic data screening and manual review. The analytical report will be assessed for completeness and for compliance with COC requests, LTO, SAP, and any additional work plan documents. The electronic data compliance will be conducted utilizing the EQuIS Data Qualification Module (DQM), a module within the Earthsoft suite of environmental data management products. All analytical data will be managed within

the EQuIS Chemistry database via electronic uploading of laboratory data. The DQM is written in Visual Basic for the EQuIS database and checks for the following parameters:

- Blank contamination;
- MS and MSD recoveries;
- MS/MSD RPD;
- LCS and LCSD recoveries;
- LCS/LCSD RPDs (when available);
- Surrogate recoveries;
- Field duplicate RPDs; and
- Holding times.

The DQM routines apply appropriate qualifiers to the data. Select manual reviews will verify appropriate qualifier application. Data Qualifiers will not be manually applied to original hard copy analytical reports. The validation reports will be included with any submittal of analytical reports to agencies or other required party

4.2.2.2 Tier 3 Validation

One SDG for each matrix collected during the initial phases of the project will undergo a detail data validation which will include the complete Tier 2 assessment and review of the additional following information relative to target compounds/analytes:

- Instrument tune;
- Initial calibration;
- Continuing calibration;
- Interference check standards (metals only);
- Serial dilutions (metals only);
- Quantitation reports;

- Internal standard area (organics only);
- Retention times (as applicable by method);
- Chromatograms (as applicable by method);
- Ion spectra for compound identification;
- Data transcription from instrument report to hard copy report; and
- A subset of calculations will be verified for each sample.

4.2.3 Data Validation Reporting

The Project Chemist will perform the following reporting functions:

- Alert the QA Manager and the Site Manager to any QC problems, obvious anomalous values, or discrepancies between the field and laboratory data and resolve any issues;
- Discuss QC problems in a data validation memo for each laboratory report;
- Review the laboratory EDD and electronic field data, enter the data qualifiers into the database, and oversee preparation of analytical data summary tables. The tables will summarize those samples and analytes for which detectable concentrations were exhibited as well as complete analytical summary tables. The tables will include field QC samples; and
- Prepare a summary of the quality control information at the completion of all field and laboratory efforts for the site. The report will summarize planned versus actual field and laboratory activities and data usability concerns.

The Project or Task Manager provides the final Data Quality Assessment during the technical review of the data report.

4.2.4 Validation Reports

Reports will be generated for each data package or combination of data packages for a single sampling event to record the results of the validation effort. The reports will identify all deficiencies and the impact on the results. The data validator or the Database Manager will append qualifiers generated during the verification/validation

process to the EQuIS database and a summary table of the data qualifiers will be included with the analytical report.

4.3 Reconciliation with Data Usability Requirements

For routine assessments of data quality, ARCADIS will implement the data verification/validation procedures described in Section 4.2 and assign appropriate data qualifiers to indicate limitations on the data. The Project Chemist will be responsible for evaluating precision, accuracy, representativeness, comparability, and completeness of the data using procedures described in Section 1.4. Any deviations from the analytical DQOs for the project will be documented in the data verification/validation memo and provided to the data users for the project. The Project Chemist will work with the final users of the data in performing data quality assessments. The data quality assessment may include some or all the following steps:

- Data that are determined to be incomplete or not usable for the project will be discussed with the project team. If critical data points are involved which impact the ability to complete the project objectives, the data users will report immediately to the Site Manager. The Site Manager will discuss the resolution of the issue with the ARCADIS Project Manager and implement the necessary corrective actions (for example, resampling);

- Data that are non-detect but have RLs elevated due to blank contamination or matrix interference will be compared to screening values (see Appendices B and C). If RLs exceed the screening values, then the results will be handled as appropriate for data use; and

- Data qualified as estimated will be utilized if it is determined that the data are useable for their intended purpose. If an estimated result is close to a screening value, then there is uncertainty in any conclusions as to whether the result exceeds the screening value. The data user must evaluate the potential uncertainty in developing recommendations for the site. If estimated results become critical data points in making final decisions on the site, the Site Manager should evaluate the use of the results and may consider the data point incomplete.

In the validation process there are two types of data validation codes that may be applied, those related to identification (confidence concerning the presence or absence of compounds) and those related to quantitation. Each of the standard data validation codes is defined below:

R	Data point is unusable due to serious deficiencies in analytical and QC criteria. The presence or absence of the analyte/compound cannot be verified
UB	Not detected substantially above the level reported in laboratory or field blanks. For organics - 5X (10X for common lab contaminants) or for metals - 10X. Data point considered non-detect at the value qualified.
U	Analyte/Compound not detected. The associated value indicates the concentration above which the result would be considered a quantitative value.
J	Reported value is considered an approximate concentration.
UJ	Analyte/compound not detected above the quantitation limit. However, the reported quantitation limit is approximate.

The ultimate data assessment process involves comparing analytical results to screening values and background concentrations to determine whether the contamination present is site related (i.e., above background levels) or significant (i.e., above screening values). Additional data assessment may be performed on site-by-site basis. Any additional procedures for data quality assessment will be provided in the OU-Specific Work Plan.

5. References

40 CFR Part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act.

ARCADIS. 2009. Project Management Plan, ARCADIS, February.

USEPA. 1983. Methods for Chemical Analysis of Water and Wastes, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA-600/4-79-020, March.

USEPA. 1997. Test Methods for Evaluation Solid Waste: Physical/Chemical Methods, Update IIIA. SW-846, Office of Solid Waste and Emergency Response, Washington, DC.

USEPA. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. Office of Emergency and Remedial Response, EPA540/R-99/008 (OSWER 9240.1-05A-P), October.

USEPA. 2001. Requirements for Quality Assurance Project Plans for Environmental Data Operations, EPA QA/R-5, Office of Environmental Information, EPA/240/B-01/003, March.

USEPA. 2002. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, Office of Emergency and Remedial Response, EPA 540-R-01-008 (OSWER 9240.1-35), July.

USEPA. 2002. Guidance for Quality Assurance Project Plans, EPA QA/G-5,Office of Environmental Information, EPA/240/R-02/009, December.

USEPA. 2004. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, Office of Superfund Remediation and Technology Innovation, EPA 540-R-04-004 (OSWER 9240.1-45), October.

USEPA. 2006. Guidance on Systematic Planning and Using the Data Quality Objectives Process; EPA /240/B-06 QA/G-4.

ARCADIS

Tables

Table 1: ARCADIS Technical Team Contact Information

Name and Contact Information	Telephone/E-Mail	Project Function
Chuck Bertz, P.E. ARCADIS U.S., Inc. 801 Corporate Center Dr., Suite 300 Raleigh, NC 26707	Phone: 919-854-1282 ext. 187 Cell: 919-607-3498 chuck.bertz@arcadis-us.com	ARCADIS Project Manager
Shelley Gibbons ARCADIS U.S., Inc. 30 Patewood Dr. ,Suite 155 Greenville, SC 29615	Phone: 864-987-3914 Cell: 864-704-3752 shelley.gibbons@arcadis-us.com	ARCADIS Associate Project Manager
Kurt Beil ARCADIS U.S., Inc. 6 Terry Drive Suite 300 Newtown, PA 18940	Phone: 267-685-1800 Cell: 215-680-2310 kurt.beil@arcadis-us.com	ARCADIS QA Manager
Scott Bostian, P.E. ARCADIS U.S., Inc. 801 Corporate Center Dr., Suite 300 Raleigh, NC 26707	Phone: 919-854-1282 Cell: 919-417-2643 curtis.bostian@arcadis-us.com	ARCADIS Site Manager
Andrew Davis ARCADIS U.S., inc. 30 Patewood Dr. ,Suite 155 Greenville, SC 29615	Phone: 864-987-3917 Cell: 864-561-5833 andrew.davis@arcadis-us.com	ARCADIS Site Manager
Jane Kennedy ARCADIS U.S., Inc. 3850 N. Causeway Blvd. Metairie, LA 70002	Phone: 504-832-4174 ext 106 Cell: 225-205-8256 jane.kennedy@arcadis-us.com	ARCADIS Project Chemist
Sam Moyers ARCADIS U.S., Inc. 114 Lovell Rd., Suite 202 Knoxville, TN	Phone: 865-675-6700 Cell: 865-621-2117 sam.moyers@arcadis-us.com	ARCADIS Health and Safety Manager
Janet Christy ARCADIS U.S., Inc. 6 Terry Drive, Suite 300 Newtown, PA 18940	Phone: 864-906-5001 Cell: 864-906-5001 janet.christy @arcadis-us.com	ARCADIS Database Manager

Table A-2. Data Quality Objectives for Site Characterization.

Data Quality Objective	Project Specific Action
Problem statement	Historical activities have contributed to environmental impacts to surface and subsurface soil, surface water and groundwater at the military facilities. The project goals include delineation of environmental impacts and achieving remedy in place or response complete in accordance with the timeline set forth in the performance based contract. To achieve these goals, characterization activities shall be performed in accordance with the sampling and analysis plans, implementation of remedial actions, monitoring of remedial performance, and confirmation of attainment of clean-up goals.
Identify the decisions	• Do constituent concentrations exceed the screening criteria? • Has the Site been delineated? • What remedial system will be used to reduce constituent concentrations? • Does the remedial system meet the performance goals?
Identify the inputs to the decision	• Complete additional delineation sampling and compare identified CoC data to screening levels; and define extent of contamination. • Design and implement remedial systems • Monitor remedial system performance • Confirm reduction in contaminant levels to below clean-up goals.
Develop the decision rule	• If soil and groundwater quality data indicate concentrations above screening levels, the affected media will be addressed by additional site investigation to delineate the nature and extent of impact to the affected media. • When the Site is delineated, the soil and groundwater quality data will be evaluated to determine if an active remediation is required to reduce the concentrations below the clean-up goals. • If the remedial system does not meet the performance goals, modifications to the existing system and/or an additional or alternative remedial system will be implemented.
Specify limits on decision errors	Data quality and usability will be determined in accordance with the criteria set forth in the QAPP. Rejected data will not be used for decision-making purposes.

CoC Constituent of Concern.
QAPP Quality Assurance Project Plan.

Table A-3 Statistical Calculations

Statistical	Symbol	Formula	Definition	Uses
Mean	X	$\frac{\left(\sum_{i=1}^{\eta} x_i\right)}{n}$	Measure of central tendency	
Standard Deviation	S	$S_x = \left(\frac{n\Sigma\chi 2 - (\Sigma\chi)^2}{n(n-1)}\right)^{1/2}$	Measure of relative scatter of the data	
Relative Standard Deviation		$(S / \overline{X}) \times 100$	Relative standard deviation, adjusts for magnitude of observations	Used to assess precision for replicate results
Pooled RSD	RSD_p	$\left(\frac{\sum_{i=1}^{\eta} (RSDi)^2 \, df\, i}{\sum_{i=1}^{\eta} dfi}\right)^{1/2}$	Measure of overall variability of a series	Used to assess overall performance for compounds with multiple measurements
Relative Percent Difference	RPD	$\left(\frac{(X_1 - X_2)}{(X_1 + X_2)/2}\right) \times 100$	Measure of variability that adjusts for the magnitude of observations	Used when there are only two observations; mathematically related to RSD

Table A-3 Statistical Calculations

Statistical	Symbol	Formula	Definition	Uses
Average Relative Percent Difference	RPD	$\frac{\text{RPD}}{n}$	Average relative percent difference - analogous to pooled RSD for duplicate measurements	Used to assess overall performance for compounds with multiple measurements
Confidence Interval	CI	$\frac{X \pm t\langle \alpha, n-1 \rangle^{S}}{n^{1/2}}$	Interval about X that contains the true value, with probability α	Assign intervals or error bars to measurement data
Percent Recovery	R	$\left(\frac{X_{meas}}{X_{true}}\right) \times 100$	Recovery of spiked compound in pure matrix	Recovery of Quality Control check sample, method spikes
Percent Recovery	R	$\frac{\begin{pmatrix}\text{value of} & \text{value of}\\ \text{spiked} & \text{unspiked}\\ \text{sample} & \text{sample}\end{pmatrix}}{\text{Value of added spike}} \times 100$	Recovery of spiked compound in sample matrix	Matrix spike and matrix spike/matrix spike duplicate recovery

X = Observation (concentration)
n = Number of observations
df = Degrees of freedom, usually
t = Statistical from students' "t" distribution

Table A-4. Field Quality Control Sample Collection Guidelines.

QC Sample	Description
Field Duplicate	One per matrix per 20 samples for each analysis.
Equipment Rinsate Blank	One per equipment set per 20 samples collected for each analysis. Only equipment sets that are dedicated or disposed of do not require equipment blanks.
Trip Blank	One per shipment for each cooler in which samples for volatile analysis are shipped. Trip blanks are analyzed for all volatile methods designated for the samples. Trip blanks are shipped for both solid and aqueous matrices.
Field Blank	One per 20 samples collected for each analysis if/when field conditions warrant evaluation of air borne contaminants. Collection decision by the Site Manager.

Field Analyses Data Quality Objectives

Parameter	Method	Precision	Accuracy % Recovery	Completeness %
pH	150.1	0.05 units	$\pm$0.2 units	95
Conductivity	120.1	7.6 umhos/cm	$\pm$2%	95
Temperature	--	0.1^{o}C	$\pm$2^{o}C	95

Calibration Frequency

Analysis	Initial Calibration	Calibration Check	Sample Duplicate
pH	Daily	Every 4 Hours	Daily
Conductivity	Daily	Every 4 Hours	Daily
Turbidity	Daily	Every 4 Hours	Daily

QA Quality Assurance
umhos/cm micromhos per centimeter

Table A-5. Summary of Methods, Containers, Preservatives, and Holding Times.

Parameter	Matrix	Preparation Method	Analytical Method [a]	Container [b]	Preservative	Holding Time [c]
Organic and Metals Methods						
VOCs	Water	5030, 5032	8260	4 x 40-mL vial with Teflon-lined septum	pH < 2 with HCl, Cool 4°C	14 days
	Water	5030, 5032	8260	4 x 40-mL vial with Teflon-lined septum	If effervescence is observed, eliminate HCl preservative and Cool 4°C	7 days
	Solid	5035	8260	3 x Encore™ OR 2 x Sodium Bisulfate vial and 1 x Methanol vial	Cool 4°C	48 hours to preservation for Encore™, then 14 days to analysis
SVOCs	Water	3510, 3520 [d]	8270 (Low Level)	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
	Solid	3540, 3550 [d]	8270 (Low Level)	1 x 4-oz or 8-oz G	Cool 4°C	14 days to extraction and 40 days to analysis
PAHs	Water	3510, 3520 [d]	8270 SIM)	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
	Solid	3540, 3525 [d]	8270 SIM	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
Organochlorine Pesticides	Water	3510, 3520 [d]	8081/608	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
	Solid	3540, 3550 [d]	8081	1 x 4-oz or 8-oz G	Cool 4°C	14 days to extraction and 40 days to analysis
Organochlorine Herbicides	Water	8151 [d]	8151	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
	Solid	8151 [d]	8151	1 x 4-oz or 8-oz G	Cool 4°C	14 days to extraction and 40 days to analysis
Metals (except Mercury)	Water	3005, 3010	6010/6020	1 x 500mL HDPE	pH < 2 with HNO_3, Cool 4°C	6 months
	Solid	3050, 3051	6010	1 x 8-oz G	Cool 4°C	6 months
Mercury	Water	NA	7470	1 x 500mL HDPE	pH < 2 with HNO_3, Cool 4°C	28 days
	Solid	NA	7471	1 x 8-oz G	Cool 4°C	28 days

Table A-5. Summary of Methods, Containers, Preservatives, and Holding Times.

Parameter	Matrix	Preparation Method	Analytical Method [a]	Container [b]	Preservative	Holding Time [c]
Total Petroleum Hydrocarbons as GRO	Water	5030, 5032	8015 Modified	4 x 40-mL vial with Teflon-lined septum	pH < 2 with HCl, Cool 4°C	14 days
	Solid	5035	8015 Modified	3 x Encore™ OR 2 x Sodium Bisulfate vial and 1 x Methanol vial	Cool 4°C	48 hours to preservation for Encore™, then 14 days to analysis
Total Petroleum Hydrocarbons as DRO/ORO	Water	3510, 3520 [d]	8015 Modified	2 x 1-L amber G	Cool 4°C [e]	7 days to extraction and 40 days to analysis
	Solid	3540, 3550 [d]	8015 Modified	1 x 4-oz or 8-oz G	Cool 4°C	14 days to extraction and 40 days to analysis
Waste Characterization Parameters						
TCLP Metals [f] (including Mercury)	Solid Waste Material	1311 for Leach/ 3005, 3010	6010 and 7470 (for Leachate)	1 x 8-oz wide-mouth G	Cool 4°C	28 days from collection to Leach; 28 days to analysis of Leachate
TCLP VOCs [f]	Solid Waste Material	1311 for Leach/ 5030	8260 for Leachate	1 x 4-oz G packed full	Cool 4°C	14 days from collection to Leach; 14 days to analysis of Leachate when preserved with HCl to pH < 2
TCLP SVOCs [f]	Solid Waste Material	1311 for Leach/ 3510, 3520	8270 for Leachate	1 x 8-oz wide-mouth G	Cool 4°C	14 days from collection to Leach; 40 days to analysis of Leachate
TCLP Pesticides [f]	Solid Waste Material	1311 for Leach/ 3510, 3520	8081 for Leachate	1 x 8-oz wide-mouth G	Cool 4°C	14 days from collection to Leach; 40 days to analysis of Leachate
TCLP Herbicides [f]	Solid Waste Material	1311 for Leach/ 8151	8151 for Leachate	1 x 8-oz wide-mouth G	Cool 4°C	14 days from collection to Leach; 40 days to analysis of Leachate
Ignitability	Aqueous Waste	NA	1010	500 mL G	NA	NA
	Solid Waste Material	NA	ASTM D-92	1 x 8-oz wide-mouth G	NA	NA

Table A-5. Summary of Methods, Containers, Preservatives, and Holding Times.

Parameter	Matrix	Preparation Method	Analytical Method [a]	Container [b]	Preservative	Holding Time [c]
Reactivity	Aqueous Waste	NA	USEPA Region 4 Guidance for Sulfide	500 mL HDPE	pH > 9 with 2 mL ZnAc and NaOH, Cool 4°C	7 days
	Aqueous Waste	NA	9010/9012/9014 for Cyanide	1 x 120 mL HDPE	pH > 12 with NaOH	14 days
	Solid Waste Material	NA	USEPA Region 4 Guidance for Sulfide	1 x 8-oz wide-mouth G	Cool 4°C	7 days
	Solid Waste Material	NA	9010/9012/9014 for Cyanide	1 x 1-L HDPE	Cool 4°C	Sulfide 7 days
Corrosivity (pH)	Aqueous Waste	NA	9040	120 mL HDPE	NA	24 hours
	Solid Waste Material	NA	9045	1 x 8-oz wide-mouth G	NA	24 hours
General Chemistry Parameters						
Alkalinity	Water	NA	SM 2320 B	500 mL HDPE	Cool 4°C	14 days
Ammonia	Water	NA	SM 4500-NH3 D	500 mL HDPE	pH < 2 with H_2SO_4, Cool 4°C	28 days
Biochemical Oxygen Demand (BOD)	Water	NA	405.1	1 x 1-L HDPE	Cool 4°C	48 hours
Chloride	Water	NA	SM4500-CL/300.0/9056	500 mL HDPE/ 2 x 40 mL vial	Cool 4°C	28 days
Cyanide	Water	NA	9010/9012/9014	1 x 120 mL HDPE	pH > 12 with NaOH, Cool °4C	14 days
	Solid	NA	9010/9012/9014	1 x 4-oz or 8-oz G	Cool 4°C	14 days
Hardness	Water	NA	SM 2340B/6010	500 mL HDPE	Cool 4°C for 130.2/ pH < 2 with HNO_3, Cool 4°C for 6010	6 months
Nitrate	Water	NA	353.2/300.0/9056	120 mL HDPE/	Cool 4°C	2 days
Nitrite	Water	NA	353.2/300.0/9056	120 mL HDPE/	Cool 4°C	2 days
Nitrate/Nitrite	Water	NA	353.2	500 mL HDPE	pH < 2 with H_2SO_4	28 days

Table A-5. Summary of Methods, Containers, Preservatives, and Holding Times.

Parameter	Matrix	Preparation Method	Analytical Method [(a)]	Container [(b)]	Preservative	Holding Time [(c)]
Phosphate	Water	NA	365.3/300.0/9056	500 mL HDPE/ 2 x 40 mL vial	pH < 2 with H_2SO_4	28 days
Sulfate	Water	NA	ASTM 516-90/300.0/9056	500 mL HDPE/ 2 x 40 mL vial	Cool 4°C	28 days
Sulfide	Water	NA	SM 4500-SULFIDE	1-L HDPE	2 mL ZnAc and NaOH to pH > 9, Cool 4°C	7 days
Total Dissolved Solids (TDS)	Water	NA	SM 2540C	500 mL HDPE	Cool 4°C	7 days
Total Suspended Solids (TSS)	Water	NA	SM 2540D	1-L HDPE	Cool 4°C	7 days
Total Organic Carbon (TOC)	Water	NA	415.2/9060	500 mL HDPE	pH < 2 with HCl or H_2SO_4, Cool 4°C	28 days
Dissolved Organic Carbon (DOC)	Water	NA	415.2/9060	500 mL HDPE	AFTER FILTRATION: pH < 2 with HCl or H_2SO_4, Cool 4°C	28 days
Chemical Oxygen Demand	Water	NA	410.4	500 mL HDPE	pH <2 with H_2SO_4	28 days

(a) The 8000 series methods will be used for assessment and remediation; the 600 series methods will be used only for wastewater.
(b) Sample volumes may be combined for parameters where preservatives are the same and adequate sample volume is supplied to the laboratory. Volumes listed are based on sample containers and not minimum volumes required for some of the General Chemistry Parameters listed. All other volumes are minimum volumes required to be submitted to the laboratory.
(c) Maximum holding time allowed from date of collection.
(d) Cleanup methods may be applicable if matrix interference is encountered. Cleanup methods may include alumina (Method 3610), florisil (Method 3620), silica gel (Method 3630), gel permeation chromatography (GPC) (Method 3640), and sulfur (Method 3660). Selection of appropriate method is based on nature of interference and target compounds.
(e) If residual chlorine is present, requires sodium thiosulfate in each sample container.
(f) Waste Characterization addresses solid (soils, drilling mud) material analysis for waste disposal purposes. Liquid (aqueous or organic) wastes will be characterized using the appropriate methods for determination of total constituent concentrations in accordance with waste disposal requirements under the Resource Conservation and Recovery Act (RCRA). TCLP analyses will be performed as required on wastes containing > 0.5% solids in accordance with RCRA waste characterization and disposal requirements.

°C – Degrees Centigrade.
DRO – Diesel Range Organics
GRO – Gasoline Range Organics
H_2SO_4 – Sulfuric acid.
HCl – Hydrochloric acid.
HDPE – High Density Polyethylene.
HNO_3 – Nitric acid.
L – Liter.
mL – Milliliter.

NA – Not Applicable.
NaOH – Sodium hydroxide.
ORO – Oil Range Organics
PAHs – Polycyclic Aromatic Hydrocarbons
SVOCs – Semivolatile Organic Compounds.
TAL – Target Analyte List.
TCL – Target Compound List.
TCLP – Toxicity Characteristic Leaching Procedure.
VOCs – Volatile Organic Compounds.
ZnAc – Zinc acetate.

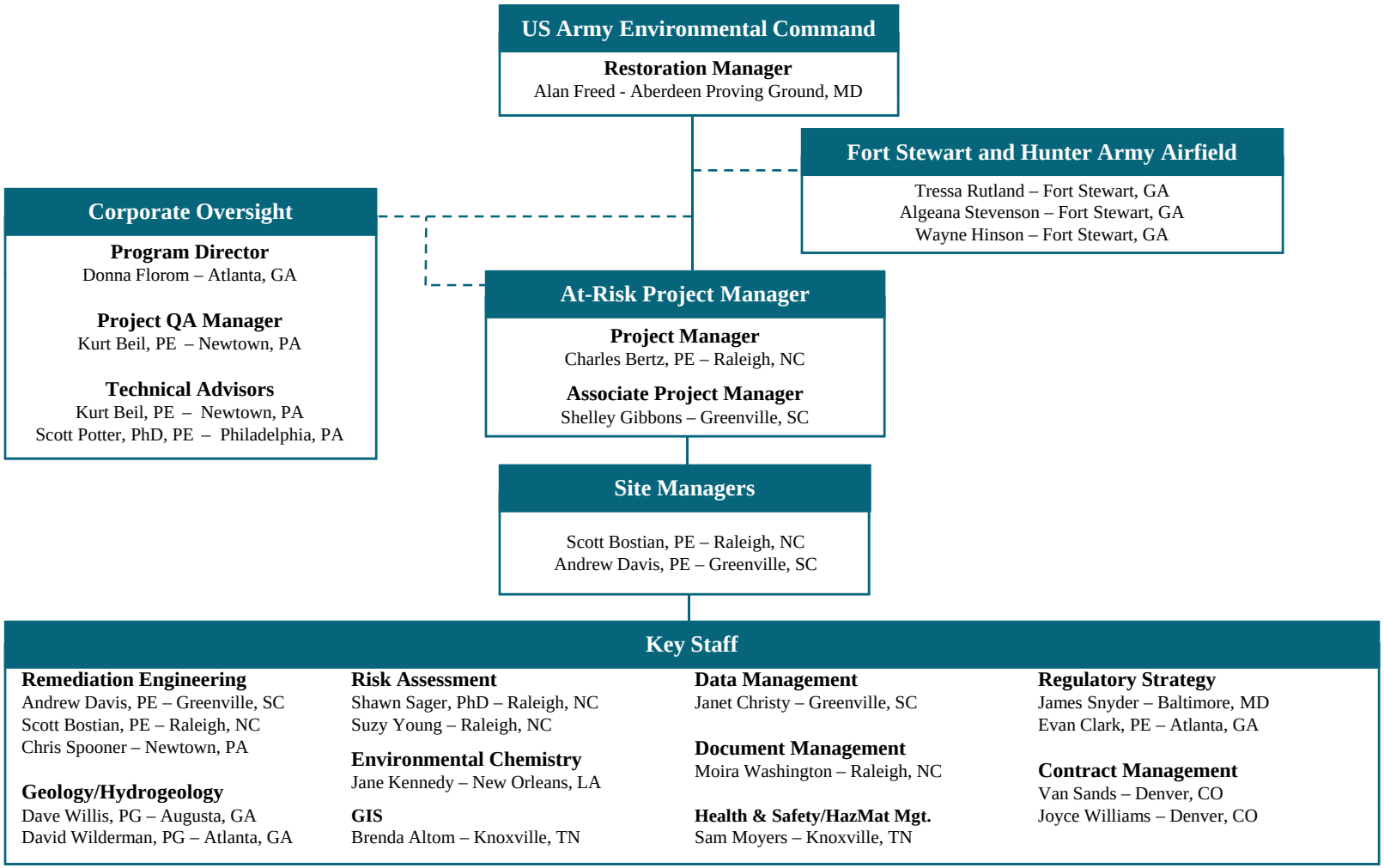
Table A-6. Laboratory Quality Control Sample Analysis Guidelines.

QC Sample	Description
Method Blank	One per matrix per preparation batch for each analysis.
Lab Replicate	One per matrix per preparation batch for each analysis.
Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD)	One LCS per matrix per preparation batch for each analysis. LCSD performance is optional.
Surrogate Spiking	All samples analyzed for organic methods as method and Standard Operating Procedure (SOP) appropriate.
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One pair per matrix per preparation batch for each analysis. The spike solution will contain a broad range of the analytes of concern, but may not contain all due to incompatibility, interaction, breakdown, availability, or multi-component compounds. The overall frequency of MS/MSD on the project samples must be at least 1 set per 20 samples.

ARCADIS

Figures

Figure A-1
Project Organization
Environmental Restoration PBA
Fort Stewart and Hunter Army Airfield
Georgia



ARCADIS

Appendix B

Field Forms

ARCADIS

Utilities and Structures Checklist

Project: Fort Stewart / Hunter Army Airfield

Prepared By:

Location:

Date:

Instructions: This checklist must be completed by an ARCADIS staff member as a safety measure to insure that all underground utility lines, other underground structures, as well as aboveground power lines are clearly marked out in the area selected for boring or excavation. **DRILLING OR EXCAVATION WORK MAY NOT PROCEED UNTIL LINES ARE MARKED AND THIS CHECKLIST HAS BEEN COMPLETED.** Arrangements for underground utility markouts are best made at the time of the preliminary site visit to allow client and/or utility company sufficient time. Keep completed checklist and maps onsite; send copy to Project Manager.

Assignment of Responsibility: ARCADIS is responsible for having underground utilities and structures located and marked. Preferably, the utilities themselves should mark out the lines.

Emergency Procedures: Follow emergency procedures outlined in site-specific Health and Safety Plan.

Utilities and Structures

Type	Not Present	Present	How Marked? (flags, paint, wooden stakes, etc.)
Natural Gas Line			
Electric Power Line			
Telephone Cable			
Sewer Line			
Storm Drain			
Water Line			
Steam Line			
Petroleum Product Lines			
Product Tank			
Septic Tank/Drain Field			
Overhead Power Line			

Name and Affliation of person who marked or cleared underground lines or structures

ORGANIZATION	NAME	PHONE

Comments:

ARCADIS

Location Sketch

Well(s) _____ Project No. GP08HAFS Page _____ of _____

Site Location _____

Prepared by _____

(Locate all wells, borings, etc. with reference to three permanent reference points: tape all distances: clearly label all wells, roads, and permanent features)





ARCADIS

Boring/Well Construction Log

JOB NUMBER	CLIENT	LOCATION	WELL NO.	PAGE 1 OF ____	WELL LOCATION
GP08HAFS	Fort Stewart / HAAF				N

DRILLING METHOD	SAMPLING METHOD
DRILLING START / FINISH	DEVELOP START / FINISH
STATIC DTW / DTO TIME / DATE	DRILLED BY
ELEVATION TOC / GL	LOGGED BY

WELL CONSTRUCTION	DEPTH FEET	CLASS	NAME	COLOR	DESCRIPTION: GRADATION, SECONDARY CHARACTERISTICS, ODOR, REMARKS.	M.C.	PID/FID (PPM)	SAMPLE NO.	SAMPLE DEPTH	BLOWS	RECOV %	TYPE
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
	19											

ARCADIS

Boring/Well Construction Log

JOB NUMBER	CLIENT	LOCATION	WELL NO.	PAGE 1 OF ____	WELL LOCATION
GP08HAFS	Fort Stewart / HAAF				N

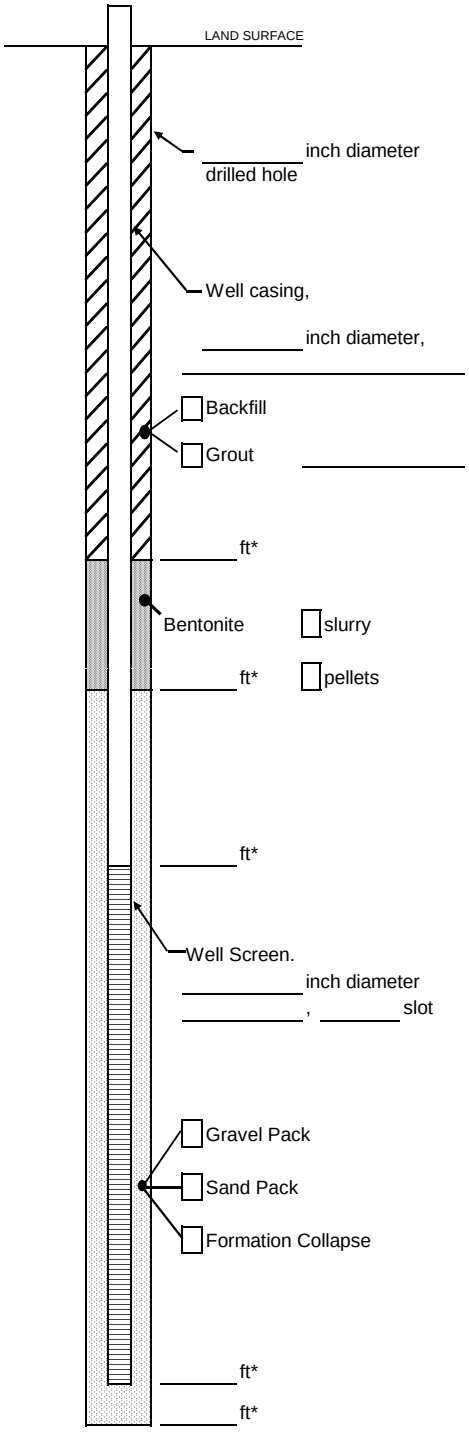
DRILLING METHOD	SAMPLING METHOD
DRILLING START / FINISH	DEVELOP START / FINISH
STATIC DTW / DTO TIME / DATE	DRILLED BY
ELEVATION TOC / GL	LOGGED BY

WELL CONSTRUCTION	DEPTH FEET	CLASS	NAME	COLOR	DESCRIPTION: GRADATION, SECONDARY CHARACTERISTICS, ODOR, REMARKS.	M.C.	PID/FID (PPM)	SAMPLE NO.	SAMPLE DEPTH	BLOWS	RECOV %	TYPE
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
	19											

ARCADIS

Well Construction Log

(Unconsolidated)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project GP08HAFS Well _____

Town/City _____

County _____ State GA

Permit No. _____

Land-Surface (LS) Elevation and Datum:

_____ feet ☐ Surveyed

☐ Estimated

Installation Date(s) _____

Drilling Method _____

Drilling Contractor _____

Drilling Fluid _____

Development Technique(s) and Date(s)

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P..

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

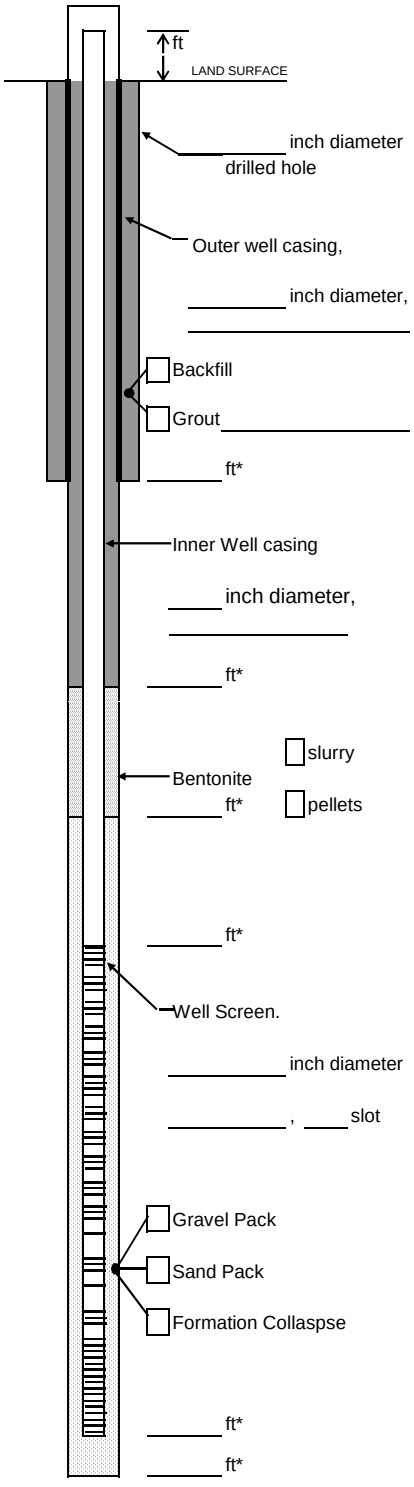
Well Purpose Monitoring

Remarks _____

Prepared by _____

ARCADIS

WELL CONSTRUCTION LOG- TELESCOPING



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

* Depth Below Land Surface

Project _____ Well _____

Town/City _____

County _____ State _____

Permit No. _____

Land-Surface Elevation and Datum:

_____ feet ☐ Surveyed

☐ Estimated

Installation Date(s) _____

Drilling Method _____

Drilling Contractor _____

Drilling Fluid _____

_____

Development Technique(s) and Date(s)

_____

_____

_____

Fluid Loss During Drilling _____ gallons

Water Removed During Development _____ gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose _____

_____

_____

Remarks _____

_____

_____

_____

_____

Prepared by _____

ARCADIS
Well Development Form

Page ____ of ____

Project/No. GP08HAFS
Fort Stewart/HAAF

Well ID _____

Date _____

Screened Interval _____

Measuring Point Description _____

Well Materials: ____ PVC ____ St. Steel

Static Water Level _____

Casing Diameter (in) _____

Pump On _____

Pump Off _____

Total depth _____

Boring Diameter (in) _____

Pump Intake _____

Water Column _____

Development Method:

Volume Purged (g) _____

Gallons Per Foot _____

Centrifugal _____
Submersible _____
Surge Block _____
Bailed _____
Other _____

Development Criteria: X Boring Vol. ____ Casing Vol. X Parameters

Gallons in Casing/Boring _____

Developed By: _____

Time	Minutes Relapsed	Rate (gpm) or (ML)	DTW (ft)	Gallons Purged	pH	Cond. (umhos) (ms/cm)	Turb (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) or (F)	Remarks

Boring/Casing Volumes
2" = 0.16 3" = 0.37 4" = 0.65 6" = 1.47 8" = 2.61 10 " = 4.08 12" = 5.88

ARCADIS

Geoprobe Groundwater Sampling Form

Project No. GP08HAFS **Boring ID:** **DP-**

Site Location: Fort Stewart / Hunter Army Airfield Date Sampled

Site Description

Weather

Duplicate/QA/QC:

Purging/Sample Collection Information

Casing Material: St. Steel Geoprobe rods Purge Method:(circle one) Bailer Peristaltic Check Valve

Casing Diameter: Geoprobe rods Sample Method: (circle one) Slotted Rods Retractable Screen

Sample ID Boring ID-GW (depth)	Sample Time	Water Column	Gallons/ Foot	Volume Purged	Turbidity	Color	Odor	Lab	Other

Lab Analysis

Constituents Sampled	Container Description	Preservative

Remarks

Sample Personnel

Purge volume = Water Column (ft) x 0.02

Water Column = Sample Depth - Depth to Water

WELL SAMPLING SUMMARY

ARCADIS Project Number: GP08HAFS *Project Name: Fort Stewart / HAAF* *Sampler:*		*Collection Date (mm/dd/yy)*	*Collection Time (hr.min)*	*Initial Depth to Water (ft btoc)*	*Well Volume (gallons)*	*Total Depth (ft)*	*Total Volume Removed (gallons)*	*Final*							*Comment*
Sample ID	*Location ID*							*pH*	*Cond. (umhos)*	*Temp. (oC)*	*Turb. (NTU)*	*ORP*	*DO*	*TDS*	

( ) = Enter the collection date within the parenthesis (ie. 011904)

ARCADIS

Water Level Measurement Form

Project No: GP08HAFS
Location: Fort Stewart / Hunter Army Airfield

Date: _____
Recorded By: _____

Well Number	Time	TOC Elevation (ft)	Static Depth to Water (ft btoc)	Duplicate Reading (ft btoc)	GW Elevation (ft msl)	Total Depth (ft btoc)	Comments

ft btoc Feet below top of casing.

ARCADIS

WATER LEVEL/PUMPING TEST RECORD

PROJECT _____ WELL _____ SITE _____

SCREEN SETTING _____ MEASURING POINT DESCRIPTION _____ HEIGHT ABOVE GROUND SURFACE _____

STATIC WATER LEVEL _____ MEASURED WITH _____ DATE/TIME _____

DRAWDOWN _____ START OF TEST _____ PUMPING WELL _____

RECOVERY _____ END OF TEST _____

DISTANCE FROM WELL MEASURED TO PUMPING WELL [r] _____ DISCHARGE RATE _____ ORIFICE _____

DATE & TIME	WELL OR t (mins)	HELD (ft)	WET (ft)	DEPTH TO WATER (ft)	s (ft)	DEW. [1] CORR. (ft)	ART.[2] s' (ft)	Q (gpm)	MANO-METER (in)	REMARKS [3]

ARCADIS

WATER LEVEL/PUMPING TEST RECORD

PROJECT _____ WELL _____ SITE _____

DATE & TIME	WELL OR t (mins)	HELD (ft)	WET (ft)	DEPTH TO WATER (ft)	s (ft)	DEW. [1] CORR. (ft)	ART.[2] s' (ft)	Q (gpm)	MANO-METER (in)	REMARKS [3]

Sample Key

				Analysis/Parameters																					
ARCADIS Project Number: GP08HAFS				Lab																Field					
Project Name: Fort Stewart / Hunter Army Airfield																									
Sampler:																									
Laboratory:																									
Sample ID	**Location ID**	**Collection Date (mm/dd/yy)**	**Collection Time (hr:min)**	*TOC (9060)*	*Aluminum (6010B)*	*Metals (App IX) (6010B)*	*SVOCs (8270C)*	*VOCs (8260B)*	*Alkalinity (310.1)*	*Pesticides (8081A)*	*Hex Chrome (7196A)*	*Total Iron (6010)*	*Carbon Dioxide (AM20G)*	*Sulfate (9056)*	*Nitrate and Nitrite (9056)*	*Chlorides (9056)*	*Methane, Ethane, and Ethene (AM20G)*	*pH*	*DO,ORP,temp., turbidity, conductivity*	**Sample Type**	**Matrix Code**	**Location Description**	**Chain of Custody**	**Parent Sample ID**	**Comment**

( ) = Enter the collection date within the parenthesis (ie. 011904)

* If more than one TB is colleced in one day then name the Trip Blanks sequentially (ie. TB1( ), TB2( ), etc.)

**The time on the COC needs to be the same for MS/MSD as the parent sample.

SAMPLING LOCATION SURVEY SUMMARY

ARCADIS Project Number: GP08HAFS			*Ground Elevation (ft. AMSL)*	*Top of Casing Elevation*		*Depth-to-Water Reference Elevation (ft. AMSL)*	*Comment*
Project Name: Fort Stewart / Hunter Army Airfield							
Sampler:							
Laboratory:							
Location	*Easting**	*Northing**		*Inner (ft. AMSL)*	*Protective/Outer (ft. AMSL)*		

* - Please provide reference for the coordinate system used.

ARCADIS

Soil/Sediment Sample Log

Project/Site Location: Fort Stewart / Hunter Army Airfield Project No.: GP08HAFS

Sample No.: _____ Duplicate/QA/QC: _____

Date: _____ Weather: _____

Site Description: _____

Sampling Method and Material: Geoprobe MacroCore with liner, stainless steel sampling spoon

Sample ID Boring ID-SO (depth)	Sample Time	Soil Class.	Soil Description (Color, description, moisute, odor, etc.)	PID/FID Reading	Offsite Lab Analysis?

Lab Analysis

Constituents Sampled	Container Description	Preservative

Remarks: _____

Sample Personnel: _____

SOIL SAMPLING SUMMARY

ARCADIS Project Number: GP08HAFS							
Project Name: Fort Stewart / HAAF							
Sampler:							
Laboratory:							
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr.min)*	*Estimated Ground Elevation (ft. AMSL)*	*Sample Start Depth (ft bgs)*	*Sample End Depth (ft bgs)*	*Comment*

Note: Sample ID = Location ID(Sample Start Depth-Sample End Depth)

ARCADIS

Groundwater Sampling Form

Site Location: Fort Stewart/HAAF Project No. GP08HAFS **Well ID:** _____

Date: _____ Sampled By: _____

Sampling Time: _____ Recorded By: _____

Weather: _____ Duplicate/QA/QC: _____

Instrument Identification

Instrument:	PID	Water Quality Meter(s)
Serial #:		

Purging Information

Casing Material: _____

Casing Diameter: _____

Total Depth: _____

Depth to Water: _____

Water Column: _____

Gallons/Foot: _____

Gallons in Well: _____

Purge Method: (circle one) Submersible Centrifugal Bladder Bailer Peristaltic

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump On: _____ Off: _____

Field Parameter Measurements During Purging

Time	Minutes Elapsed	Rate (gpm or ml)	Volume Purged	Depth to Water	Turbidity (NTUs)	pH (SI Units)	Conductivity (µmhos/cm)	Temp (ºC or ºF)	Diss. Oxygen	Comments

Observations During Sampling

Well Condition: _____

Color: _____

Odor: _____

Purge Water Disposal: _____

Turbidity(qualitative): _____

Other (OVA, HNU,etc.): _____

Constituents Sampled	Container Description: From Lab _____ ARCADIS _____	Preservative

Boring/Casing Volumes

2" = 0.16 4" = 0.65

ARCADIS

SURFACE WATER SAMPLE LOG

Sample ID _____ Project/No. _____

Date _____ Sampling Personnel _____

Time _____ _____

Weather _____

DESCRIPTION OF SAMPLE LOCATION:

Name of Water Body _____

Depth of Water _____ Velocity _____

Other Comments _____

Substrate Description _____

Location _____

_____

Description of Nearby Vegetation _____

FIELD PARAMETERS:

Sample Method _____

Sample Description _____

_____

Temperature (°C/°F) _____ pH _____

Dissolved Oxygen _____ SC _____

Salinity _____

CONTAINER DESCRIPTION: From _____ Lab _____

Bottle Type	Analysis	Preservative

ARCADIS
CALIBRATION FORM
PHOTOIONIZATION DETECTOR

Project: **Fort Stewart / Hunter Army Airfield**

Location: _____

PID Model: **Multi Rae**

Pre-Use Calibration

Date:_____ Time:_____am/pm

5 minute (minimum) warm up in ambient air: YES ☐ NO ☐

Battery indicator reading (e.g., 10 through +20): _____

Instrument zeroed (ambient air): YES ☐ NO ☐

Span gas pressure (e.g., 30 psi minimum to 300 psi):

Calibration gas used is 100 ppm Isobutylene/air: YES ☐ NO ☐

Benzene Referenced: YES ☐ NO ☐

Calibration Value: _____

Post-Use Calibration

Date:_____ Time:_____am/pm

Ambient air reading (e.g., 0 ppm): _____ppm

Battery indicator reading (e.g., 10 through +20): _____

Calibration Value: _____

Comments and description of work activities performed during monitoring:

_____

_____

_____

Calibrated by:_____

ARCADIS

Field Instrument Calibration Log

Project Name/Number _____ Date _____

Calibrating Personnel _____ Instrument _____

Time of Initial Calibration _____ Weather _____

Calibrant	Initial Reading	Adjusted Reading	Final Reading	Time	Temperature

ARCADIS

Daily Log

Well(s) _____ Project No. GP08HAFS Page _____ of _____

Site Location Fort Stewart / Hunter Army Airfield

Prepared by _____

Date/Time	Description of Activities

ARCADIS GERAGHTY & MILLER Laboratory Task Order No./P.O. No. _____ **CHAIN-OF-CUSTODY RECORD** Page _ of _____

Project Number/Name _____

Project Location _____

Laboratory _____

Project Manager _____

Sampler(s)/Affiliation _____

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	ANALYSIS / METHOD / SIZE						Remarks	Total

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/ Containers

Relinquished by: _____	Organization: _____	Date ___/___/___	Time _____
Received by: _____	Organization: _____	Date ___/___/___	Time _____
Relinquished by: _____	Organization: _____	Date ___/___/___	Time _____
Received by: _____	Organization: _____	Date ___/___/___	Time _____

Seal Intact? Yes No N/A

Seal Intact? Yes No N/A

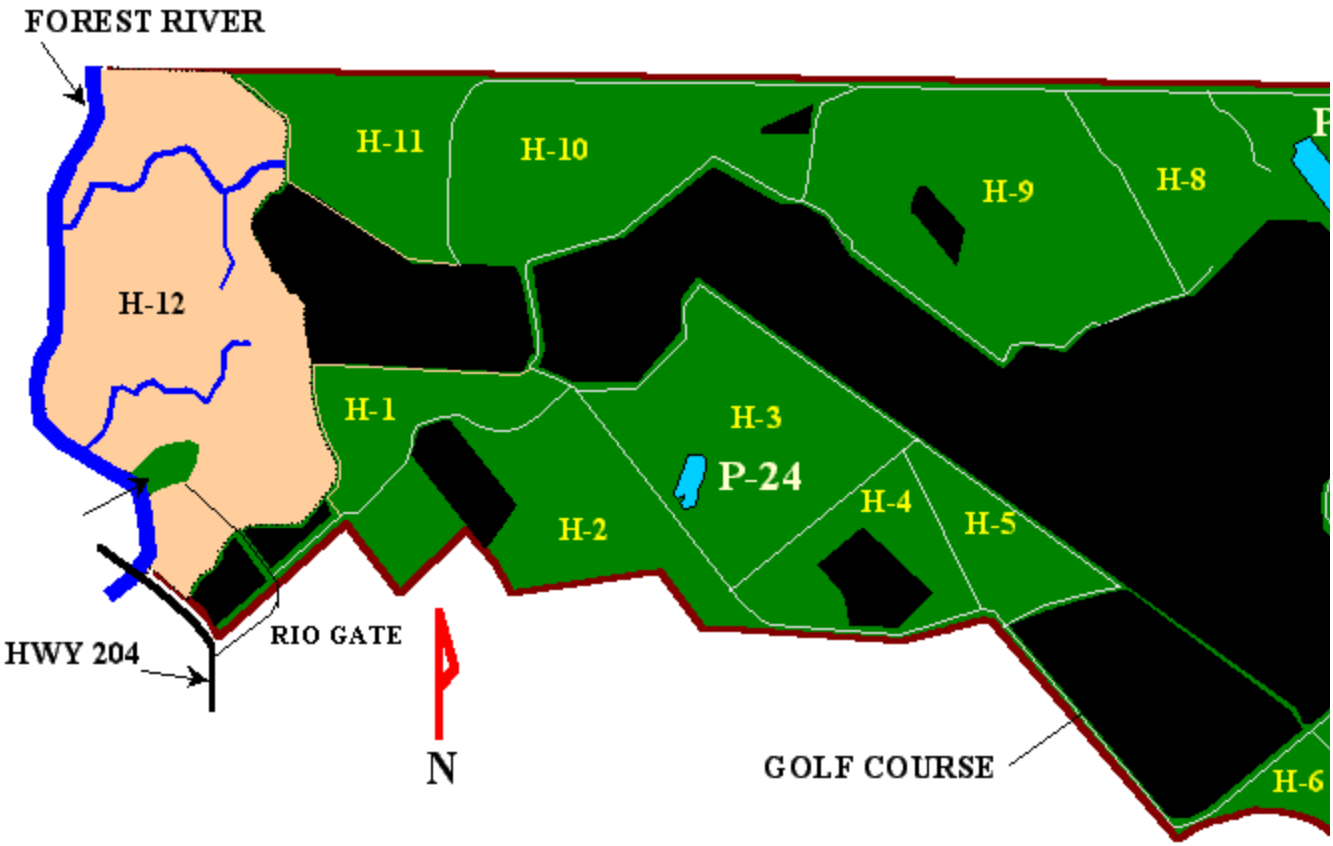
Special Instructions/Remarks: _____

Delivery Method: ☐ In Person ☐ Common Carrier _____ (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

AG 05-0597

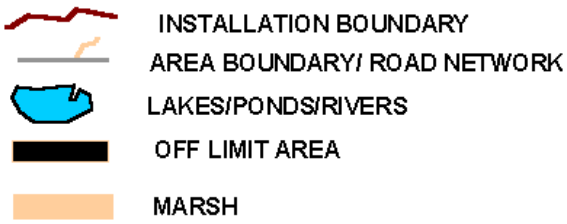
HUNTER ARMY AIRFIELD RECREATIONAL FISHING MAP...



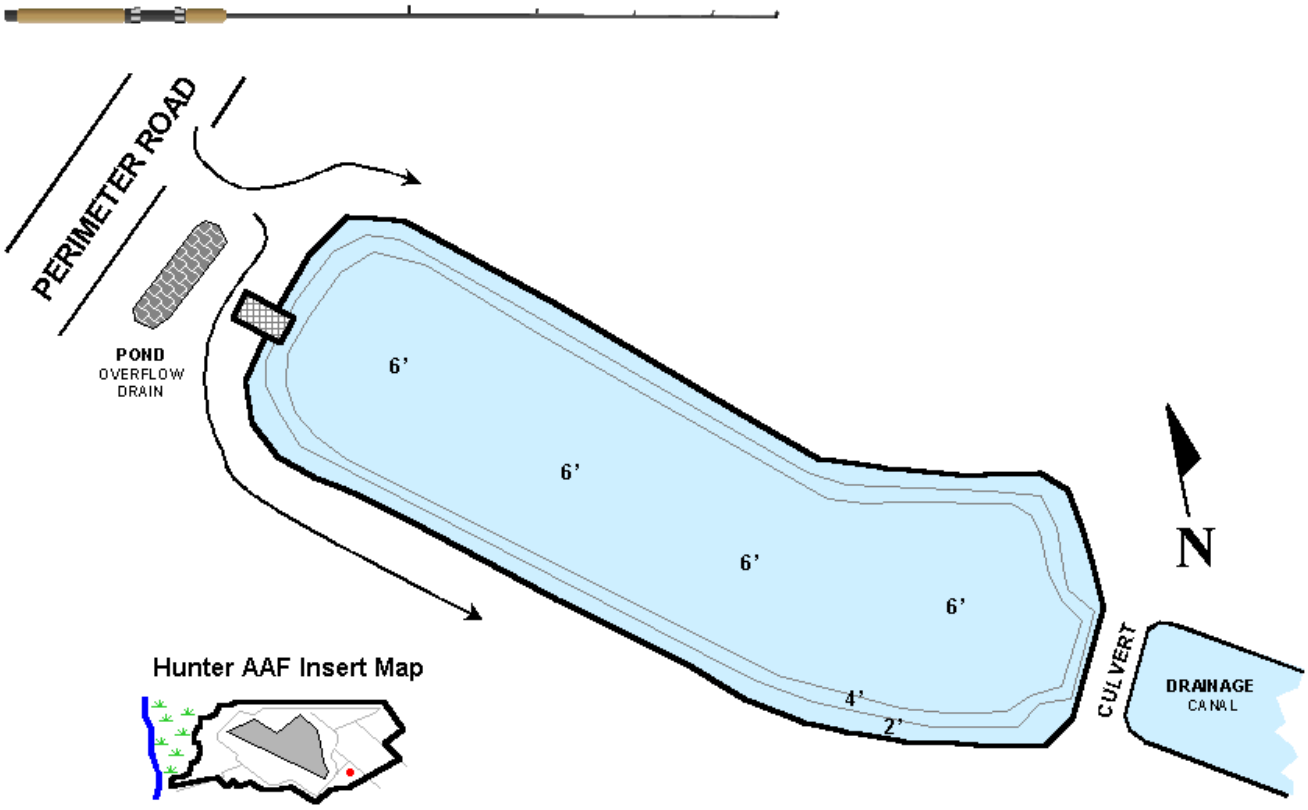


(Click on the pond below OR the pond on the map above to view a detail of the pond.)

[P-24 Hallstrom Pond (4.3 Acres)]
[P-29 Oglethorpe Lake (9.7 Acres)]
[P-35 Wilson Gate Pond (4.5 Acres)]



Wilson Gate Pond (Pond #35)



Lake Facts... (Contour Intervals: 2 feet)

Surface Acres: 4.0 Acres **Average Depth:** 6 ft.
Constructed: 1998 **Training Area:** H-7 (HAAF)
Boat Ramps: No **Perimeter Road:** Partial
Fish Attractors: No

Route to Pond...

Enter Hunter Army Airfield via Stevenson Avenue (Wilson Gate), proceed down Wilson Blvd., turn left on Perimeter Road and the pond will be on your immediate left.

Fish Species...

Stocked: **Largemouth Bass, Bluegill Sunfish, Redear Sunfish, Channel Catfish**

Available, But Not Stocked: **Black Crappie**

Management...

Liming, Fertilizing, Aquatic Weed Control, Fish Attractors, Water Quality Monitoring, Fish Population Sampling, Fish Stocking, Pond Maintenance and Repair

Return to top

Date of last update: 06/09/2009

Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
1	04/11/09

Description
View looking south at drainage canal under S. Lightning Road



Photo No.	Date
2	04/11/09

Description
View looking northeast at drainage canal east of Motor Pool area



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
3	04/11/09

Description
View looking south at drainage canal under S. Lightning Road



Photo No.	Date
4	04/11/09

Description
View looking south at drainage canal on south side of S. Lightning Road



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
5	09/25/09

Description
View looking north along S. Perimeter Road



Photo No.	Date
6	04/11/09

Description
View looking north at drainage canal under S. Lightning Road and Motor Pool area



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
7	04/11/09

Description
View looking northeast at drainage canal north of S. Lightning Road



Photo No.	Date
8	04/11/09

Description
View looking north at drainage canal north of S. Lightning Road



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
9	9/25/08

Description
View looking south at Purge Facility



Photo No.	Date
10	9/25/09

Description
View looking north at Motor Pool north of S. Lightning Road



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
11	9/25/09

Description
View looking west at Building 1290 west of S. Lightning Road



Photo No.	Date
12	9/25/09

Description
View looking east at Pond 35 east of S. Perimeter Road



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
13	9/25/09

Description
View looking northwest at entrance to motor pool area from S. Lightning Road



Photo No.	Date
14	9/25/09

Description
View looking west into wooded area east of drainage canal



Appendix K
Photographic Log

Client Name:	Site Location:	Project No.:
U.S. Army Environmental Command	HAA-17 Hunter Army Airfield, GA	GP08HAFS.H17B

Photo No.	Date
15	9/25/09

Description
View of construction in area of former drycleaner and former weapon cleaning area



Photo No.	Date
16	9/25/09

Description
View looking southeast at vehicle maintenance area northeast of motor pool area



Compliance Status Report
Review Checklist

Site Name:	HAA-17			**HSI # :**	10903
City/County:	Savannah, Chatham County			**CSR Date:**	April 2011
PRP:	Fort Stewart/Hunter AAF	**Revision No. (if applicable):**		**Consultant**	ARCADIS

Release to Soil?	(YES)	NO			**Release to Groundwater:**	(YES)	NO	
Soil RRS Certification:	Type 1	Type 2	Type 3	Type 4	Type 5	(Cannot certify)		
GW RRS Certification:	Type 1	Type 2	Type 3	Type 4	Type 5	(Cannot certify)		

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
391- 3-19-.06(3)(b)(1)	A description of each known source which has contributed to or is contributing to a release at the site including:		
391- 3-19-.06(3)(b)(1)(i)	Source name, number, or other descriptor;	Y	pgs 4-1,4-2
391- 3-19-.06(3)(b)(1)(ii)	Location of source on a map (minimum scale of 1" = 200');	Y	Fig 4-1
391- 3-19-.06(3)(b)(1)(iii)	Name of each regulated substance released from each source;	Y	pgs 5-1 to 5-7
391- 3-19-.06(3)(b)(1)(iv)	Chronology of each source of a release; and	Y	pgs 5-1 to 5-7
391- 3-19-.06(3)(b)(1)(v)	If source is an engineered structure or waste management unit, a description of the function, design, dimensions, capacity and operation of the source, including as-built construction diagrams	Y	pgs 4-1,4-2

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
	where available.		
	Releases to Soil		
391- 3-19-.06(3)(b)(2)	Complete definition of horizontal and vertical extent of soil contamination to background. Background shall be determined using samples representative of soil conditions not affected by a release of a regulated substance. In support of the definition of the extent of contamination, the CSR shall include, at a minimum:		
391- 3-19-.06(3)(2)(b)(i)	General approach used;	Y	pgs 6-1,6-2,6-3
391- 3-19-.06(3)(b)(2)(ii)	Analytical parameters selected and the rationale for selection;	Y	pg 6-2
391- 3-19-.06(3)(b)(2)(iii)	Map of minimum scale of 1" = 200' showing location of all sampling points by sample number, and vertical cross-sections where appropriate. Concentrations of constituents should be indicated by isoconcentration lines.	Y	Fig 5-1, 5-2, 6-1, 7-1
391- 3-19-.06(3)(b)(2)(iv)	Sampling and analysis procedures including:		
391- 3-19-.06(3)(b)(2)(iv)(I)	Sampling equipment and collection techniques;	Y	pg 6-4, App I, Sect. 3.2
391- 3-19-.06(3)(b)(2)(iv)(II)	Field analytical or measurement techniques including make and model of equipment and calibration schedule and type;	Y	App I, Section 3-2 and 3-3
391- 3-19-.06(3)(b)(2)(iv)(III)	Sample handling and preservation techniques;	Y	App I, Sect 4.3.3
391- 3-19-.06(3)(b)(2)(iv)(IV)	Equipment decontamination procedures;	Y	App I, Sect 3.12
391- 3-19-.06(3)(b)(2)(iv)(V)	Chain-of-custody procedures;	Y	App I, Sect 4.3
391- 3-19-.06(3)(b)(2)(iv)(VI)	Lab techniques including references to analytical methods, including QA/QC procedures;	Y	App C, pg 6-4
391- 3-19-.06(3)(b)(2)(v)	A description of any statistical procedures used to evaluate the data;	Y	Sect 8 and 9
391- 3-19-.06(3)(b)(2)(vi)	Procedures used to establish background soil concentrations; and	Y	pg 5-6, App H

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
391- 3-19-.06(3)(b)(2)(vii)	Narrative and tabular summary of all pertinent field data and the results of all final lab analyses that are supported by sufficient QA/QC control data to validate the results.	Y	pgs 5-5,5-6,6-3,6-4 Tables 5-3,5-5,7-3
Releases to Groundwater			
391- 3-19-.06(3)(b)(3)	Complete definition of horizontal and vertical extent of groundwater contamination to background. Background shall be determined using samples representative of groundwater conditions not affected by a release of a regulated substance. In support of the definition of the extent of contamination, the CSR shall include, at a minimum:		
391- 3-19-.06(3)(b)(3)(i)	Analytical parameters selected and the rationale for selection;	Y	pg 6-2, Sect 5
391- 3-19-.06(3)(b)(3)(ii)	A description of methods used to characterize sub-surface geology;	Y	App I, Sect 3.1
391- 3-19-.06(3)(b)(3)(iii)	A description of methods used to characterize vertical and horizontal groundwater flow gradients, flow rates, and flow directions;	Y	pg 7-2
391- 3-19-.06(3)(b)(3)(iv)	Methods used to determine hydraulic conductivities and other pertinent hydrogeological characteristics, including a description of any slug and/or aquifer tests;	Y	pg 6-2
391- 3-19-.06(3)(b)(3)(v)	A description of groundwater monitoring well locations, and their installation and construction methods, including:	Y	Sect 6.6, Fig 5-1 App I, Sect 3.5
391- 3-19-.06(3)(b)(3)(v)(I)	A map (minimum scale 1"= 200') depicting all existing well locations including a survey of each well=s surface reference point and the elevation of its top-of-casing;	Y	Fig 5-1
391- 3-19-.06(3)(b)(3)(v)(II)	Type of well casing material;	Y	Sect 6.6
391- 3-19-.06(3)(b)(3)(v)(III)	Description of well intake design including screen slot size and length, filter pack materials and length, and method of filter pack emplacement;	Y	Sect 6.6, App I Sect 3.5
391- 3-19-.06(3)(b)(3)(v)(IV)	Method used to seal the well from the surface and any other features designed to prevent or minimize downward migration of	Y	Sect 6.6, App I, Sect 3.5

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
	contaminants along the well annulus; and		
391- 3-19-.06(3)(b)(3)(v)(V)	Description of methods and procedures used to develop the wells.	Y	App I, Section 3.6.2
391- 3-19-.06(3)(b)(3)(vi)	Description of all sampling and analysis procedures used including:		
391- 3-19-.06(3)(b)(3)(vi)(I)	Procedures and timing for measuring groundwater elevations for each sampling event;	Y	App I, Sect 3.6.1 Table 6-1
391- 3-19-.06(3)(b)(3)(vi)(II)	Well evacuation procedures including well volume evacuated prior to sampling;	Y	App I, Sect 3.6.2, App F
391- 3-19-.06(3)(b)(3)(vi)(III)	Sample withdrawal techniques, sampling equipment and materials;	Y	App I, Sect 3.6.2
391- 3-19-.06(3)(b)(3)(vi)(IV)	Sample handling and preservation techniques;	Y	App I, Sect 4.3
391- 3-19-.06(3)(b)(3)(vi)(V)	Equipment decontamination procedures;	Y	App I, Sect 3.12
391- 3-19-.06(3)(b)(3)(vi)(VI)	Chain-of-custody procedures;	Y	App I, Sect 4.3
391- 3-19-.06(3)(b)(3)(vi)(VII)	Lab techniques including references to analytical methods, including QA/QC procedures;	Y	pg 6-2, App C
391- 3-19-.06(3)(b)(3)(vii)	Description of procedures used to determine background groundwater concentrations;	Y	App H
391- 3-19-.06(3)(b)(3)(viii)	Map (minimum scale of 1" = 200') or less depicting the horizontal extent of contamination. Concentrations should be indicated by isoconcentration lines.	Y	Fig 7-7,7-8 and 7-9
391- 3-19-.06(3)(b)(3)(ix)	Map (minimum scale of 1" = 200') or less depicting the potentiometric surface of groundwater;	Y	Fig 7-2 and 7-3
391- 3-19-.06(3)(b)(3)(x)	Maps and vertical cross-sections of appropriate scale depicting concentrations for all contaminants superimposed upon site stratigraphic features and monitoring wells; and	Y	Figure 7-1
391- 3-19-.06(3)(b)(3)(xi)	Narrative and tabular summary of all pertinent field data and the results of all final lab analyses that are supported by sufficient	Y	Sect 7.2, Tables 7-4,7-5, 7-6

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
	QA/QC control data to validate the results.		
	ADDITIONAL REQUIREMENTS		
391- 3-19-.06(3)(b)(4)	A description of any human or environmental receptors who may have been or could potentially be exposed to a release at the site.	Y	Sect 8.1
391- 3-19-.06(3)(b)(5)	A description of all properties which are part of the site including the address and location of such property, its legal description, and the property owner=s name, address and telephone number.	Y	Sect 4.2
391- 3-19-.06(3)(b)(6)	The name, address, and telephone number of any other person who may be a responsible party for the site and a description of the type and amount of regulated substances such party may have contributed to a release.		Not Applicable
391- 3-19-.06(3)(b)(7)	A summary of previous actions taken to eliminate, control or minimize any potential risk at the site, including actions taken to comply with the risk reduction standards.	Y	Sect 5.8 & 8.4
391- 3-19-.06(3)(b)(10)	Attached to the front of the CSR, concise statement of the findings of the report presented in plain language, immediately followed by the certification required by 391-3-19-.06(4)(a).	Y	pgs 1 through 8
391-3-19-.06(4)(a)	The CSR shall include a compliance certification regarding the responsible party=s own determination as to the status of a site or any individual property at a site with regard to the applicable risk reduction standards for all regulated substances evaluated by the CSR.	Y	pg 2-1
391-3-19-.06(4)(b)	The CSR certification shall be signed by the applicable person described in Items 1 - 4 of .03(6)(c). Where the CSR is submitted for two or more cooperating responsible parties, the certification may be signed by a duly authorized representative of said responsible parties.	Y	pg 2-1
391-3-19-.06(4)(c)	Any person signing the certification of compliance shall make the certification specified in the Rules.	Y	pg 2-1

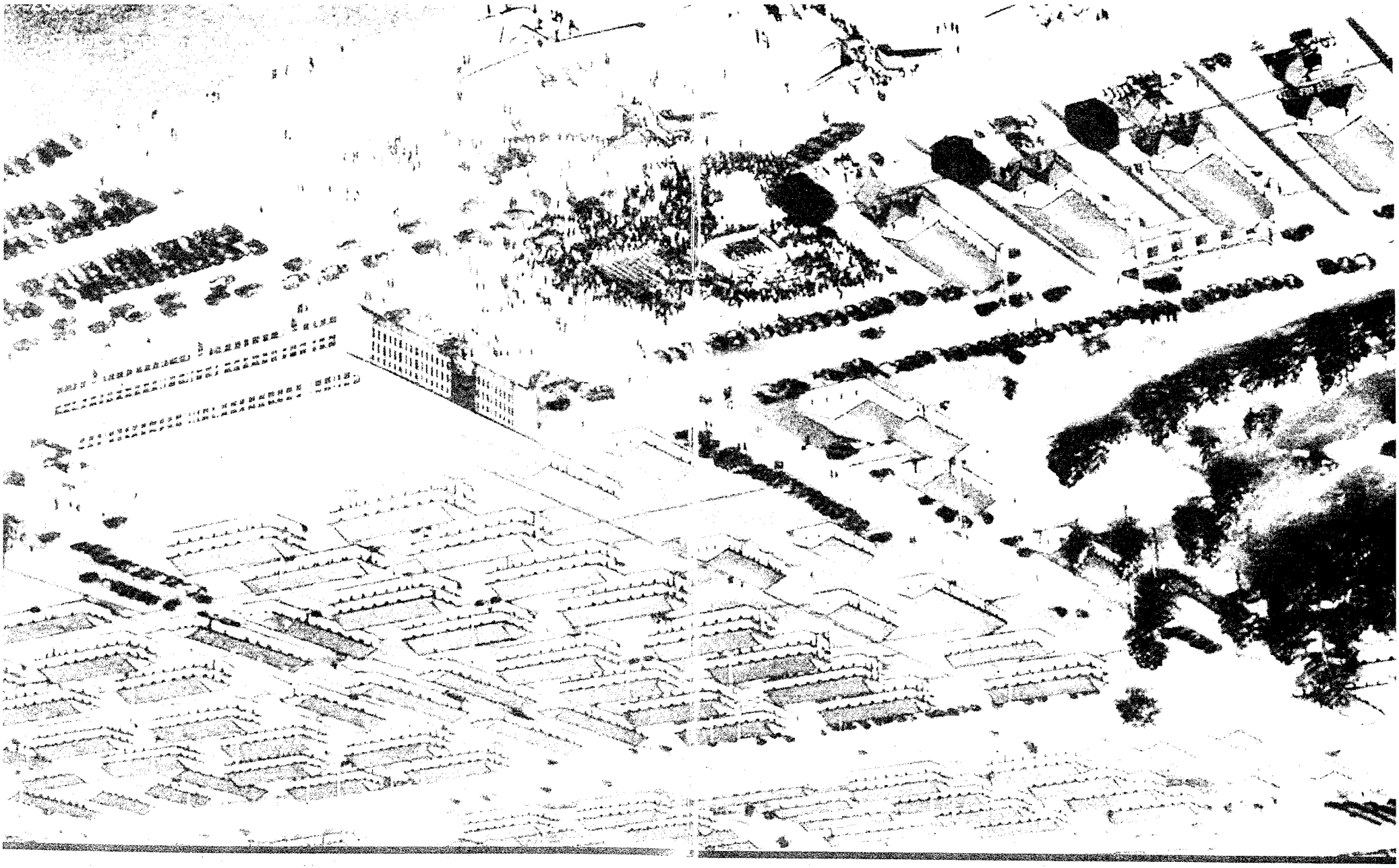
RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
391- 3-19-.06(5)(a)	Within 7 days of submitting the CSR, RP shall publish a notice in both a major local newspaper of general circulation and the legal organ of the local governments in whose jurisdiction the site is located, announcing that such a report is available for inspection by the general public, including:	Y	Section 10
391- 3-19-.06(5)(a)(1)	The name, address, and location of the site as it appears on the HSI, and, if the plan applies to less that the full site, the street address and owner=s name of the applicable properties;	Y	Title Page & Section 3
391- 3-19-.06(5)(a)(2)	The statement provided in this section;		
391- 3-19-.06(5)(a)(3)	Announcement of a 30-day comment period and the name, address, and phone number of the EPD contact person to whom written or oral comments can be made;	Y	Section 10
391- 3-19-.06(5)(a)(4)	Name, address, and phone number of the RP or its designated contact person; and		
391- 3-19-.06(5)(a)(5)	Location where the report may be viewed or copied.	Y	Section 10
391- 3-19-.06(5)(e)	Within 7 days of submitting the CSR to EPD, the RP shall provide to the count government in the county in which the site is located and to the government of any city in whose jurisdiction the site is located the same information required above.	Y	Section 10
391-3-19-.07(4)	For corrective action to be in compliance with these standards, the following common elements are required:		
391-3-19-.07(4)(a)	Removal of all free product to the extent practicable.	Y	Section 3
391-3-19-.07(4)(b)	No soil remaining in place shall exhibit the hazardous waste characteristics of ignitability, corrosivity, or reactivity.	Y	Section 3
391-3-19-.07(4)(c)	Shall not allow exposure to concentrations which would cause food chain contamination, damage to soils or to biota which could impair the use of the soils for agricultural or silvicultural purposed, adverse effects on vegetation or wildlife, or the accumulation of vapors in	Y	Section 3

RULE SECTION	DESCRIPTION OF REQUIREMENT	Y or Ξ	Location in CSR (i.e. pg.)
	buildings or other structures which pose a threat to human health and the environment.	**Y**	**Section 3**
391-3-19-.07(4)(d)	**Shall protect the waters of the State from releases that would cause surface water to exceed the Georgia in-stream water quality standards.**	**Y**	**Pg. 7-9 and Section 3**
391-3-19-.07(4)(e)	**If the detection limit and/or the background concentration for a regulated substance is greater than the concentration specified in any risk reduction standard, the greater of the detection limit or background shall be used for determining compliance with the risk reduction standards.**	**Y**	**Section 3**

____X____ Groundwater work certified by a geologist, etc.

_____ Corrective Action Plan included.

Additional Notes:



Hunter Army Airfield
A History

Joseph P. Maggioni

Funded by

United States Department of Defense
Department of the Army, Fort Stewart
Directorate of Public Works
Environmental Division, Prevention and Compliance Branch

Fort Stewart Popular Report Series 6

2007

Contents

Beginnings 3

Savannah Airport 3

World War II 4

Hunter Field Goes to War 5

A Municipal Airport Again 9

The Cold War and Strategic Air Command (SAC) 9

Early Sac Operations at Hunter AFB 12

The New Look 13

From Wing Rotation to Reflex 15

Changing Strategies 18

Materiel Air Transport Service 20

Vietnam and the Army's Arrival 20

Hunter Army Airfield: 1974 to 2001 21

Confronting Global Jihad: 2001 to the Present 22

Sources 24

Illustration Credits 24



Hunter Field, 1933

Beginnings

The 1920s marked the true beginning of civilian aviation in the United States. By 1930, nearly 1,700 civilian airports had been established in the nation. As part of this trend, in 1927, the city of Savannah bought 900 acres of woods, pasture, and swamp 3 miles south of the city limits for the first Savannah Airport—later known as Hunter Field.

Savannah Airport

In three years, using mostly chain-gang labor, Chatham County dug ditches in the area, graded the field with 400,000 cubic yards of sand, and planted it with Bermuda grass. The landing area was 4,500 feet long and 3,500 feet wide, with no runways. Aircraft could take off and land in any direction. The original airfield lay roughly on what is now Hunter Army Airfield's parking apron.

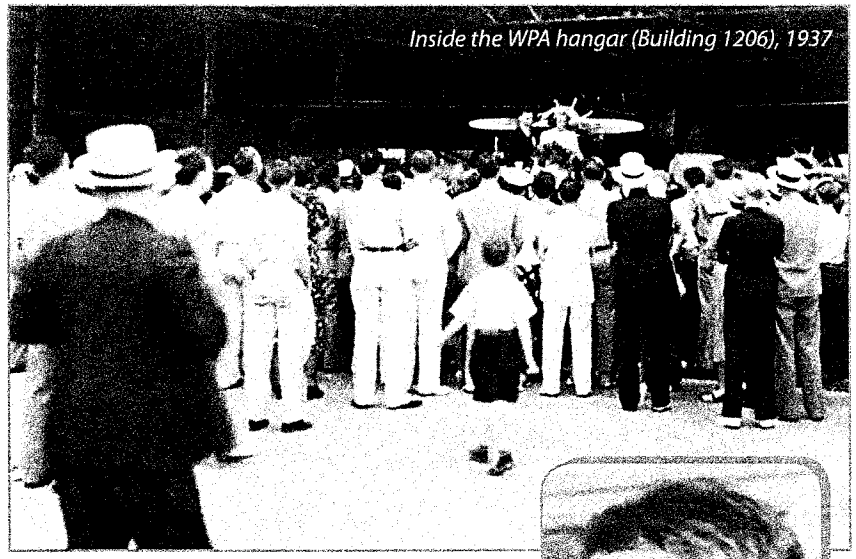
Airfield Lighting at the Savannah Airport in the Early 1930s

"Robbie Richard and myself used to ride with Mr. Tillman... on the running board of his Ford and put out lanterns... so that the airplanes can land at night.... So when we come from school, just every afternoon...Mr. Tillman would have the lanterns filled with kerosene [in] the Model A.... We'd get on the running board and we'd put the lanterns down.... He'd go another, say, fifty feet and put another lantern down...."

— Joseph Butler Harris

On September 20, 1929, a six-seater Bellanca CH-300 Pacemaker named "The City of Savannah" became the first aircraft to land at the Savannah Airport, inaugurating the Eastern Air Express, New York to Miami air service. One month later, the stock market crashed, plunging the U.S. into the Great Depression. By November of that ill-fated year, Eastern Air Express folded. This left Savannah without regular air service until 1931, when Eastern Airlines began offering intrastate travel from Savannah to Augusta and Atlanta.

In spite of the Depression, the city undertook a number of improvements to the airfield throughout the decade, including the 1932 construction of Wilson Boulevard, named after Judge Emmett Wilson, chairman of the city's airport commission. In 1936, the city and one of President Roosevelt's public works programs, the Works Progress Administration (WPA), cooperated in making significant improvements to the airport. The WPA spent $130,000, and the city $36,000 to rebuild the drainage system, construct a new metal hangar, and replace the grass airfield with three new asphalt runways.



Inside the WPA hangar (Building 1206), 1937



Henry G. "Sandy" Strachan ►

The current Building 1206 is the WPA hangar, little changed since the 1930s. The first Savannah-based flying service, Strachan Skyways, moved into this hangar after it was built. The most prominent local aviator of the 1930s, Henry G. "Sandy" Strachan (pronounced "strawn") owned the company and was also the airport manager. According to the *Savannah Morning News* (Jan. 1941), Strachan was "recognized as one of the leading fliers of Georgia…[and] credited as much as anyone else with bringing the magical world of flight to Savannah's attention." Air activity grew apace with the airfield. By decade's end, the airfield hosted regular flights from both Delta and Eastern airlines.

World War II

When Hitler invaded Poland in September 1939, the U.S. Army, with 175,000 men, ranked seventeenth in the world—weaker than even the Dutch and Romanian armies. Meanwhile the Japanese, locked in combat with the Chinese since 1937, were looking to expand their empire in Asia. The Air Corps, part of the Army at the time, had only 2,200 obsolete aircraft stationed at twenty-four airfields around the country. Europe and China were engulfed in war, and, although the U.S. was not yet involved, in the corridors of Washington preparations began for a military build-up.

Still, the war seemed far away from Savannah during that late summer. In September, the Air Corps commissioned Sandy Strachan a lieutenant, but business continued as usual at the airport. In 1939–1940, the city built a permanent municipal airport building to house the growing administrative activities of the airport. (The building's terrazzo floor still remained intact on the installation flightline as of July 2007.) On May 19, 1940, the city officially dedicated the airport as Hunter Field.

Hunter Field Goes to War

In 1940, the U.S. began to rearm in preparation for war. The government increased funding for new equipment and bases and instituted a peace-time draft. A primary beneficiary of this new largesse was the Air Corps, which by 1941 had grown to over 25,000 personnel and 4,000 aircraft. The Air Corps needed new airbases to accommodate its growth and, in August 1940, selected Hunter Field as a light-bomber training base.

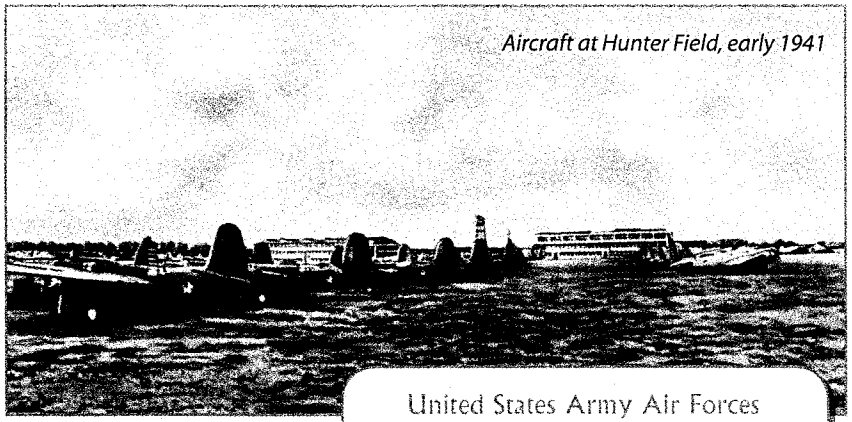
Within two months, the Air Corps transferred 3,000 personnel of the 3rd and 27th Bomb Groups and 100 A-18 trainers, A-20 light bombers, and B-18 medium bombers to the new base, which shared the airfield with the civilian airport. Within nine months, the military had constructed an entire cantonment north of the runways consisting of over 220 facilities, including barracks, warehouses, a hospital, hangars, and operations buildings. The threat of war had transformed the sleepy southern airfield into a bustling military installation.

In January 1941, Savannah received the tragic news that Sandy Strachan had died in a training accident at Barksdale Field, Louisiana. In his honor the Air Corps named the



Frank O'Driscoll Hunter

Usually public facilities are named for deceased persons. However, Hunter Army Airfield's namesake, Frank O'Driscoll Hunter (1894–1982), Lieutenant Colonel, U.S. Army Air Corps, was very much alive when the city of Savannah christened the installation Hunter Field in 1940. A native of Savannah, Georgia's only World War I flying ace, and a lifelong bachelor, Hunter would be promoted to Major General and briefly lead the Eighth Air Force Fighter Command in World War II.



Aircraft at Hunter Field, early 1941

road running adjacent to the runways and parking aprons Strachan Road. (In the 1990s, the installation renamed this street Lightning Road.)

The 3rd and 27th Bomb Groups trained at Hunter Field throughout 1940 and 1941, participating in large-scale Army maneuvers in the Carolinas. On December 7, 1941, the Japanese bombed Pearl Harbor. All passes from Hunter Field were immediately canceled, and airmen were required to wear uniforms at all times. The U.S. now faced war with Japan and Germany.

From 1941 to 1943, the base grew to a population of 10,000, expanded its boundaries from 900 to nearly 3,000 acres, built six additional cantonments and tent camps at the installation, expanded runway capacity, built aircraft parking aprons, and trained ground support squadrons, bomber groups, and fighter groups. Units that trained at Hunter Field later saw active combat in all major theaters of war, including the China-Burma-India, the Pacific, and the European theaters.

United States Army Air Forces

The Air Corps was formed in 1926 as a subordinate branch of the Army. Initially the various ground force corps commands held operational control over Air Corps aircraft, but, in 1935, the Army formed General Headquarters Air Force (GHQAF), which placed all aircraft under the command of a single aviator general. This fractured the chain of command, as GHQAF only controlled flying aircraft, while the Air Corps, a separate organization, controlled logistics, training, and doctrinal development. To fix this problem, in June 1941, the War Department created the United States Army Air Forces (USAAF), a new organization that both the Air Corps and GHQAF (later renamed Combat Command) were subordinate to. Technically still a sub-service of the Army, the USAAF was assigned its own Undersecretary of War, with a seat on the General Staff. This was a major step towards the creation of the Air Force as a separate branch of service.

In March 1943, the USAAF designated Hunter Field as the Third Air Force Staging Wing Base, changing its mission to staging air crews and aircraft for transfer to combat operations in Europe. Over the next two years, Hunter Field processed 9,000 aircraft and 70,000 crewmen.

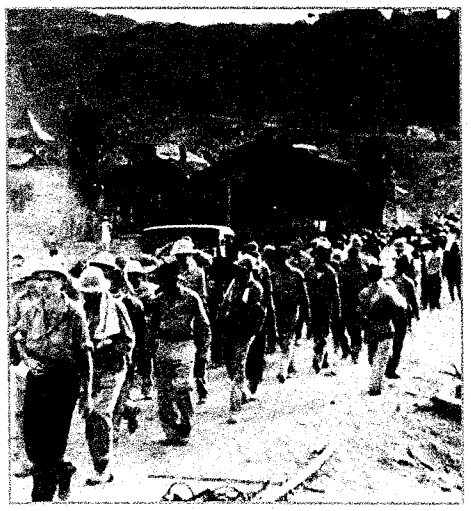
The military built approximately 450 buildings at Hunter Field from 1940 to 1945. Over the past sixty years, the installation has demolished most of its World War II buildings. As of 2007, the remaining on-post World War II structures include a water tower (Facility 721), an abandoned ammunition storage area (Buildings 1305–1308), a heat plant (Building 812), two bomb-sight

Birth of the Mighty Eighth Air Force

On January 28, 1942, the USAAF formed the Eighth Air Force at Hunter Field. For three months in early 1942, Hunter Field's personnel prepared the embryonic command for overseas service until its transfer to England, where the Eighth Air Force gained fame conducting daylight strategic bombing missions over western Europe.

The Ill-Fated 27th Bomb Group

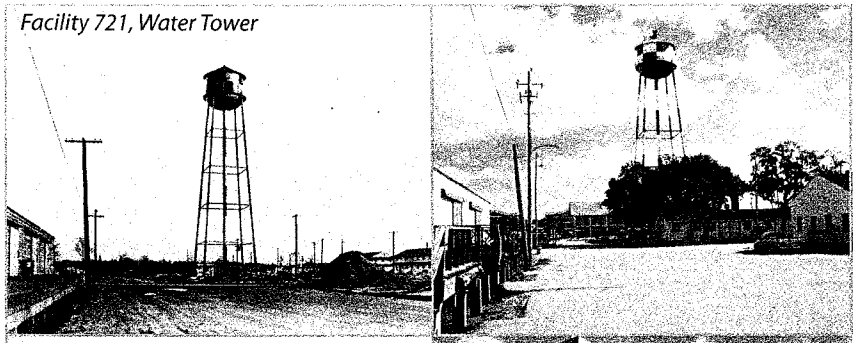
In November 1941, the Air Corps transferred the 27th Bomb Group from Hunter Field to the Philippines. The 27th arrived just before the Pearl Harbor attack on December 7, 1941. The Japanese invaded the Philippines days later. In a letter dated February 18, 1942, Lieutenant Colonel John Sewell described the 27th's ordeal to his family: "We never did get any airplanes and...as infantry we have functioned.... We are living in the jungle; no tents.... We eat twice a day...mostly canned salmon and rice. Morale is high.... I have lost several men and one officer, mostly killed by bombs.... But we have killed hundreds of [Japanese] too.... How or when this letter will reach you I have no idea. I am putting it in the hand of God." The Japanese killed or captured the entire unit when the Philippines fell in April 1942. The photo depicts U.S. prisoners of war on Bataan being led into a brutal captivity.



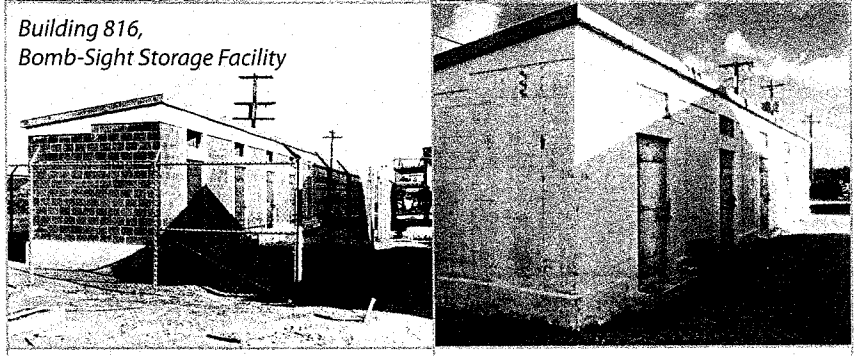
Hunter Army Airfield Then and Now

1940–1950 ▼ *2006* ▼

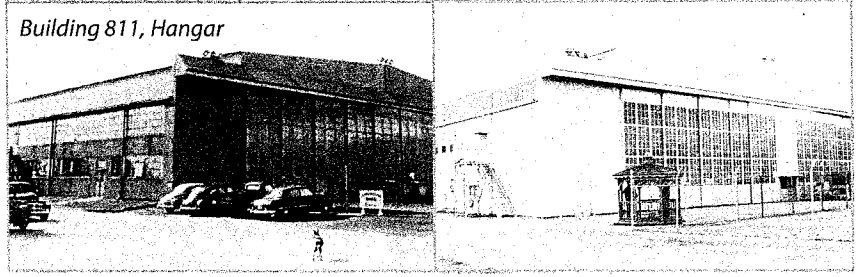
Facility 721, Water Tower



Building 816, Bomb-Sight Storage Facility



Building 811, Hangar



storage facilities (Buildings 803 and 816), the sewage treatment plant, the small arms range (used during World War II to test fire and sight in aircraft-mounted machine guns and cannon), three hangars (Buildings 811, 813, and 1290), and various administration buildings and warehouses.

After Germany's surrender in May 1945, Hunter Field processed aircraft and crew who were returning from the Mediterranean and slated for duty in the Pacific. This operation was cut short on August 6, 1945, when the B-29 *Enola Gay*, piloted by Colonel Paul Tibbetts, dropped a terrible new weapon—an atom bomb—on the Japanese city of Hiroshima, killing 100,000 Japanese. A second bomb dropped on Nagasaki prompted the Japanese government to surrender unconditionally. The mushroom clouds over Hiroshima and Nagasaki marked the final act of World War II and ushered in an era of global uncertainty. Would the destructive power of the bomb force an end to war? Or would the bomb lead to an end to humanity?

A Municipal Airport Again

After 1945, Hunter Field reverted to the Savannah Municipal Airport. The airport only used a small fraction of Hunter Field's cantonment; the balance, administered by the Federal Public Housing Administration, was leased to various public and private enterprises. Businessmen converted buildings to industrial plants, commercial businesses, and even apartments. The University of Georgia, overwhelmed with returning veterans, even opened a satellite campus on the old airbase.

The Cold War and Strategic Air Command (SAC)

As the 1940s ended, the Soviet Union, formerly a World War II ally, showed itself under the dictator Josef Stalin to be an implacable foe of western capitalism and democracy. The Soviets took control of Eastern European nations, attempted a blockade of Berlin in 1948, and exploded their own atomic weapon in 1949. The U.S. grew increasingly concerned with Communist aggression and expansion. In 1947, President Truman signed the National Security Act (NSA), reorganizing the U.S. defense and intelligence

Colonel Paul Tibbetts



Tibbetts, born in 1915, trained at Hunter Field in 1940 and 1941 as a lieutenant in the 3rd Bomb Group. He recalled that "the...months [training at Hunter Field] were the most important of my career from the standpoint of learning to become a precision pilot." Tibbetts distinguished himself in World War II as a squadron commander in Europe. In the Pacific, he commanded the 509th Composite Group, which dropped the A-bombs on Hiroshima and Nagasaki. Tibbetts returned to Hunter as commander of the 308th Bomb Wing from 1956 to 1958. He married his second wife in the Hunter Chapel, Building 145, in 1956. At left is Tibbetts just after completion of the Hiroshima mission.

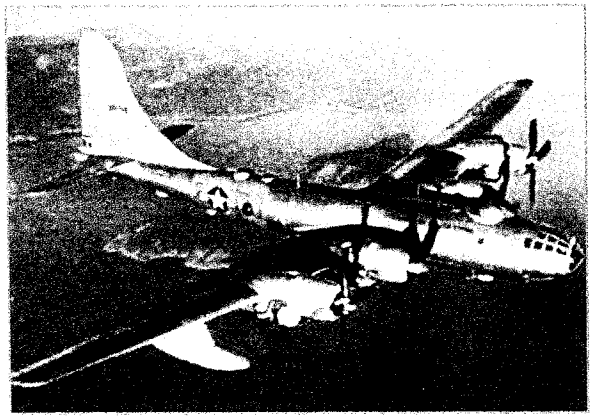
establishments and making the Air Force a completely independent branch of service. Because of its role in atomic bomb deployment, the Air Force became the most important branch of the military. Consequently, the Air Force's Strategic Air Command (SAC), responsible for delivery of the atomic bomb, became the most important Air Force command.

And what of SAC's principal weapons? In 1948, less than sixty atomic bombs were in the U.S. nuclear arsenal. Controlled by the civilian Atomic Energy Commission, the bombs were stored in four "Q Areas" adjacent to Air Force bases in the southern parts of the country: one in New Mexico, one in Tennessee, and two in Texas. By 1950, SAC consisted of fourteen bomb wings, flying mostly B-29 and B-50 propeller medium bombers or huge B-36 piston-pull heavy bombers. Like the Q Areas, SAC based its bombers primarily in the southeast and southwest parts of the country.

In 1949, as part of its southern strategy, SAC stationed the 2nd Bomb Wing and its B-50 bombers at Chatham Field, a World War II airbase built a few miles west of Savannah. However, with inadequate barracks and operations facilities, Chatham Field proved unsatisfactory for SAC. In order to keep SAC in the Savannah area, the city offered to exchange Hunter Field for Chatham Field.

SAC Bombers at Hunter AFB: 1950–1953

SAC stationed B-29 and B-50 bombers at Hunter AFB from 1950 to 1953. The B-29, with a maximum speed of 357 mph and a range of 3,250 miles, entered service during World War II. The B-29 spawned many variants, including the B-50 (left), which entered service in 1948. Similar to the B-29, the B-50 had greater speed (385 mph), range (4,650 miles), and mid-air refueling capability.



General Curtis LeMay

The controversial General Curtis LeMay (1906–1990) commanded SAC from 1948 to 1957. LeMay made frequent surprise visits to his bases, including Hunter AFB. Under LeMay, SAC continually improved its training, technology, doctrine, and morale. The general, however, was notorious for making disturbing public comments favoring preemptive nuclear war. LeMay retired as the Air Force Chief of Staff in 1965 and, in 1968, ran unsuccessfully for vice president on George Wallace's ticket.



SAC accepted, and, in September 1950, the switch occurred. Hunter Field became Hunter Air Force Base (Hunter AFB), while Chatham Field became the Savannah Municipal Airport, now known as the Savannah/Hilton Head International Airport.

On arrival at Hunter AFB in 1950, SAC found a neglected World War II–era airport. Buildings creaked with rotten siding and broken windows, while asphalt roads showed ruts and holes, and grass grew through the pavement of aircraft parking aprons. A land conflict in Asia soon accelerated the pace of base construction and development.

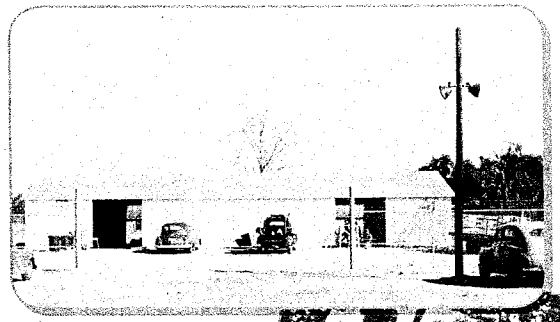
In June 1950, Communist North Korea invaded South Korea, starting the Korean War (1950–1953). Concerned that this attack was orchestrated by Moscow as the first round of World War III, the Truman administration began an immense military build-up, with SAC a major beneficiary. During the conflict, the U.S. nuclear arsenal increased from 300 atomic bombs to over 800. SAC grew from 59,000 to 153,000 personnel, developed and issued new jet aircraft, and built new bases, including Hunter.

By January 1951, SAC had slated a second bomb wing for Hunter AFB and, in 1950–1951, spent over $5.6 million on the base, mostly repairing World War II buildings, roads, and runways, and expanding the base to its current boundaries west to the Little Ogeechee (Forest) River and east to White Bluff Road. In the summer of 1951, Congress spent nearly $6 billion on the largest military construction program since World War II. Hunter AFB received $24.5 million and promptly spent $2.5 million building the installation's current runway.

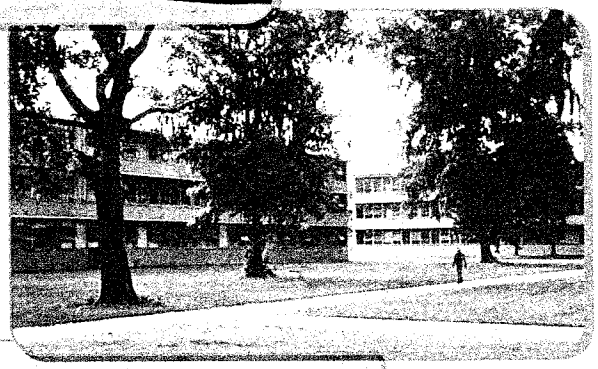
Early SAC Operations at Hunter AFB

In the midst of this new construction, the 2nd Bomb Wing conducted ground training, aircraft maintenance, unit-simulated combat missions (USCMs) involving practice bomb runs over American cities, and practiced the loading and deployment of nuclear weapons. SAC constructed a new ammunition storage area, which is still the post's ammunition storage point today. Hardstand 13, an unassuming facility located within the present-day Building 1336 motor pool area, served as a classroom for nuclear weapons operations and as a central control point for nuclear weapon loading exercises. Hardstand 13 has since been demolished.

In April 1952, the 308th Bomb Wing, armed with B-29s, arrived at Hunter AFB. The 2nd and 308th Bomb Wings together formed the 38th Air Division. On paper, each wing had forty-five bombers divided into three combat squadrons and over 2,500 men, including combat crews, maintenance personnel, and security teams. In reality, the more recently-formed 308th did not have a full complement of bombers and was not yet rated combat ready.



◄ *Hardstand 13, December 1950*

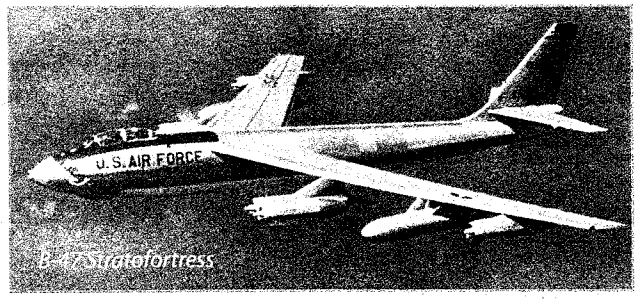


Pinwheel barracks, circa 1954 ►



◄ *Building 850 under construction, 1954*

The New Look



B-47 Stratofortress

In 1952, Dwight D. Eisenhower was elected President. After the election, a series of military and political events, including the development of thermonuclear weapons thousands of times more powerful then atomic bombs, spurred the arms race between the U.S. and the Soviet Union. Under the Eisenhower administration, the concept of deterrence through the threat of massive nuclear retaliation became central to U.S. strategic planning and was formalized in a reform of the military establishment named the New Look after a ladies' fashion style promoted by *Vogue* magazine. Under the New Look, the Eisenhower administration stressed the deterrent potential of nuclear weapons by making SAC the centerpiece of the military establishment. From 1953 to 1961, SAC received nearly 50 percent of the entire U.S. military budget.

With this massive increase in funding, it is no surprise that many buildings at Hunter Field in 2007 date from this time period. From 1953 to 1956, the installation, in conjunction with the Savannah District Corps of Engineers, constructed double cantilever

U.S. Special Weapons Deployment 1948–1956

From the late 1940s through the 1950s, the government stored its nuclear arsenal in secure Q Areas, which grew in number from four in 1948 to twenty in 1960, matching the increase in the U.S. nuclear and thermonuclear arsenal. Some SAC airfields were located next to Q Areas, but for the other installations not adjacent to Q Areas (like Hunter AFB) the Air Force, prior to 1956, deployed the nuclear weapons in two ways: bombers would fly to the Q Areas, pick up bombs, and then conduct exercises; or transport aircraft would fly the bombs from the Q Areas to the bases, and the bombs would be temporarily stored on the base.

SAC Aircraft Maintenance at Hunter AFB

Crew chiefs would inspect their aircraft and inform Wing Maintenance Control of any maintenance problems. Using a large Plexiglas board to track the status of the sixty aircraft it was responsible for, Maintenance Control would then issue the wing maintenance shop work orders. Each shop, in turn, assigned mechanics to the aircraft, giving them specific work deadlines. Because B-47 bombers had limited space for maintenance, the work had to be carefully coordinated. If a mechanic, working on a tight schedule, ran out of time and did not inform Maintenance Control by radio, he would have to leave, allowing the next mechanic space to work.

hangars, three massive pinwheel barracks, new administration and shop buildings, air traffic control buildings, on-post family housing, and new community and recreation facilities.

The advent of The New Look coincided with a long-planned SAC-wide aircraft upgrade. In 1953, SAC began issuing the new B-47 jet bomber to its units, with Hunter AFB receiving its first jets in January 1954. Throughout the previous year, in addition to their regular duties, SAC personnel at Hunter AFB had been training to fly and maintain this new aircraft, vastly different from their vintage World War II propeller-driven bombers. With its swept-wing design and bubble cockpit, the B-47 looked and maneuvered more like a fighter than a bomber.

The B-47 flew at a top speed of 600 mph, 200 mph more than its predecessors. It had a range of only 4,000 miles, but its in-flight refueling capability gave this bomber a global reach. The B-47's speed and maneuverability revolutionized bomber tactics and doctrine. Instead of flying in mass formations, the B-47 would fly individually into enemy airspace at various points, relying on surprise and speed as its main defense. This required more intensive flight training than World War II bomber crews had received, and Hunter AFB, like other SAC bases, emphasized a high degree of training and readiness. Combat crews continually practiced bomb runs, outdoor survival, resolving navigational problems, and other skills necessary to fight and possibly survive nuclear war.

In support of the combat crews, SAC maintenance personnel worked on aircraft along the massive concrete aircraft parking apron, capable of parking over 130 bombers and refueling tankers. The 2nd Bomb Wing operated from the north edge of the apron, the 308th from the east edge. The space between the two double cantilever hangars, Buildings 850 and 860, marked the operational boundary between the two wings. New buildings were arranged and old buildings adapted to suit a maintenance system centrally controlled by single bomb wings. Basic maintenance and inspections of aircraft by combat squadrons and organizational/periodic maintenance squadrons occurred in nosedocks, such as Buildings 843, 844, and 845, or on the flightline.

More specialized maintenance occurred in the large hangars under field maintenance squadrons in Buildings 850 and 860. Smaller aircraft components were often removed for maintenance in the armament and electronics squadron shops, which mostly operated out of old World War II buildings and hangars, such as Buildings 811, 813, 1206, and 1290. Wing maintenance control directed all of these maintenance activities.

From Wing Rotation to Reflex

In 1954, SAC headquarters rated the entire 38th Air Division combat ready and nuclear capable. The 38th took part in wing rotation—a SAC program that brought bombers within easy range of the Soviet Union through ninety-day tours at SAC bases in the United Kingdom and North Africa. Hunter AFB's flightline was the staging area for the deployments. The 2nd Bomb Wing undertook two wing rotations to the United Kingdom in 1951 and 1952. Both the 2nd and 308th Bomb Wings conducted multiple wing rotations to North Africa, particularly to Sidi Slimane, Morocco, after 1952. However, the presence of large U.S. bomber forces often caused political problems for the host countries. Wing rotation deployments ceased by the late 1950s.



A Second Bomb Wing combat crew, 1957



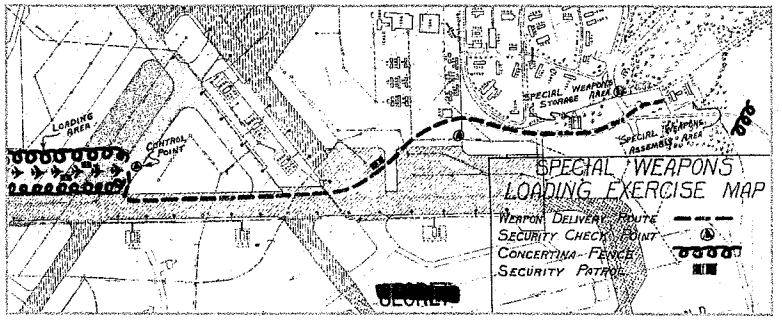
H-Bomb Accidents and Hunter AFB

Hunter AFB was involved in two hydrogen bomb accidents, occurring within a month of each other. In February 1958, a bomber from Homestead AFB collided with a fighter plane, forcing the bomber to jettison the bomb off the coast of Tybee Island and land at Hunter AFB. Then in March 1958, a B-47 of the 308th Bomb Wing inadvertently dropped a hydrogen bomb near Florence, South Carolina, injuring six people and destroying a farmhouse owned by the Gregg family (shown here at their house after the incident). Because of standard SAC safety precautions, neither bomb was armed for a thermonuclear detonation.

The 1950s was a decade of continual evolution of nuclear weapons and delivery technology. By 1953, both the Soviet Union and the United States had developed thermonuclear, or hydrogen bombs, hundreds of times more destructive than atomic bombs. More ominously still, the development of missiles meant that the warning time for an attack would soon be measured not in hours, but in minutes. This dawning realization led to SAC developing both a rapid response for its bomber force (the Alert program) and on-site nuclear and thermonuclear weapon storage on all SAC bomber installations. The latter program was called Bombs on Base (BOB). Fifteen facilities in the current ammunition area were constructed in 1957 as part of BOB.

By 1956, SAC had developed a one-third ground alert concept, which envisioned a third of SAC aircraft on alert and armed, ready to take off within fifteen minutes' warning for retaliatory nuclear strikes. In 1956, SAC headquarters designated Hunter AFB as the first test site for this concept. Under Operation TRY OUT (November 1956–April 1957), Hunter AFB locked the installation down, placed a third of its aircraft in full alert configuration, and continued normal training and maintenance schedules. The next six months were a grueling ordeal for the officers and men at Hunter AFB. One airman of the 2nd Field Maintenance Squadron recalled, "[W]e come on the base, we didn't go off the flightline for...months. I slept on mattresses brought in from the barracks on the hangar deck [of Building 850]. The mess hall brought bag lunches; that's what we ate, and we lived and worked right out of the hangar."

Hunter AFB proved the one-third alert concept feasible, and SAC quickly moved to implement the program after TRY OUT. In the late 1950s and early 1960s, when the U.S. faced the threat of missile attack with only a bomber force, one-third ground alert remained critical to U.S. nuclear deterrence. SAC bombers used variations of this alert concept through the end of the Cold War. In July 1957, SAC also began Reflex operations, which stationed bombers on ground alert in overseas bases, primarily in North Africa and England. Reflex soon replaced wing rotation. By 1958, Hunter AFB began both home station alert and Reflex operations.



Special Weapons Operations at Hunter AFB

"[W]e always towed the Bomb behind a truck and...the trailer was covered with canvas. When we got to the B-47, the crew chief on the B-47 would open up the bomb bay, back the bomb in, in between the engine and the bomb bay, then we would hang the curtains from the bomb bay to the trailer and we'd push the Bomb in.... Now when you loaded your Bomb...then we would set in what was called the Capsule. In those days, the Capsule was the uranium-235 or whatever they put in the atomic weapon, and it set separately in the bomb bay.... [I]t's against the law to fly over the continental United States with a loaded atomic bomb, so [when the aircraft got beyond the three-mile limit] the bombardier...would [crawl] back into the bomb bay, take the Capsule out, go around behind it (there was a little walkway where you'd go around behind the Bomb), [attach] the Capsule, then the Bomb was loaded...."

— Joe Kerr, 804th Supply Squadron, Hunter AFB, 1955–1957

In October 1957, the Soviet Union launched Sputnik I—the first man-made orbital satellite—leaping ahead of the U.S. in what came to be known as the "space race." Sputnik proved Soviet intercontinental ballistic missile (ICBM) capability. With the U.S. rockets and missiles still under development, SAC's bomber alert and Reflex program became more important than ever to the country's defense against a Soviet missile attack.

Changing Strategies

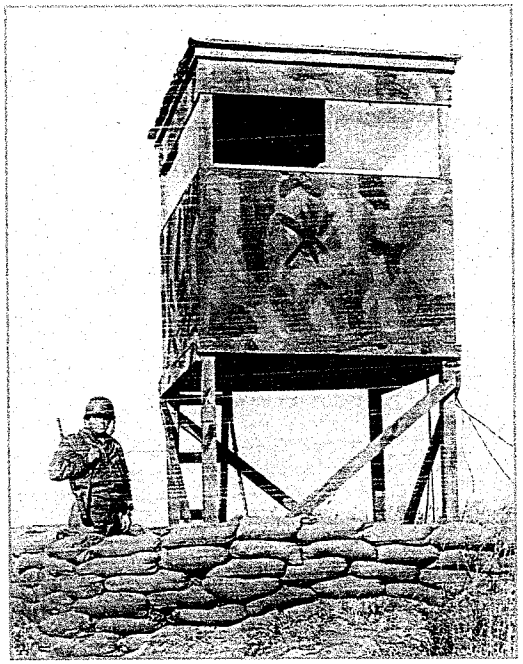
In the mid-1950s, SAC began basing bomb wings in the northern tier of the country, closer to the Soviet Union when flying over the Arctic Circle and away from heavily populated areas. By 1955, the first B-52 heavy bombers came online with greater range and payload capacity than the B-47s. The U.S. deployed ICBMs by 1959. The development of ICBMs and the B-52 precluded the need for B-47 bases in the Southeast. Hunter AFB became obsolete.

By 1960, SAC had transferred the 308th from Hunter AFB and announced the base's imminent reassignment to Military Air Transport Service (MATS), another Air Force command. Because of the changes in technology and American nuclear strategy, Hunter AFB's days as a SAC installation were definitely numbered.



The SAC Alert Area at Hunter AFB

The area known as Saber Hall was originally a SAC alert area built in 1960 for home station alert operations. Building 8661, known as the "molehole," housed combat crews on alert, ready to run up the ramps to waiting aircraft parked on the Christmas Tree apron. Fully fueled and loaded with nuclear weapons, aircraft parked at the alert area stood ready to take off within fifteen minutes of the alert siren. The photograph at left depicts an alert crew running to a B-47 at an unspecified alert area.

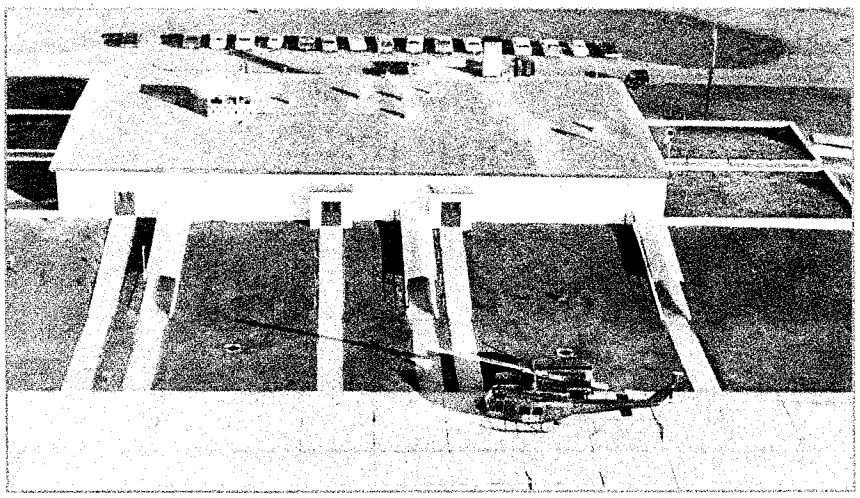


Temporary guard tower during the Cuban Missile Crisis, Hunter AFB, October 1962

The country elected John F. Kennedy president in 1960. The Soviets tested the youthful Kennedy repeatedly. Two years into his presidency, in October 1962 (just six months before SAC was scheduled to leave Hunter AFB), the Soviets began installing medium-range nuclear missiles in Cuba. The U.S. imposed a naval blockade on missile shipments and demanded the missiles' removal. The world waited nervously and wondered what would happen if the Soviets tried to run the blockade; would a naval incident between the two superpowers start World War III?

Hunter AFB's 2nd Bomb Wing, which already had seventeen B-47s on Reflex alert overseas, dispersed thirteen more bombers to Shaw AFB and Charleston AFB in South Carolina. All were in full Emergency War Order configuration, loaded with nuclear weapons and Jet-Assisted Take Off rockets for lift-off. Beginning on October 20, 1962, the installation hosted the B-47s of the entire 306th Bomb Wing based out of MacDill AFB, Florida. On October 22, SAC placed its fleet at DEFCON 3, increasing readiness and alert levels above normal. By October 24, all aircraft at Hunter AFB—sixty B-47 bombers with full nuclear payloads—sat silent on the aircraft parking apron and the Christmas Tree apron at the alert area, waiting for the balloon to drop.

Other SAC bases in the U.S. and overseas were on full alert. Overhead, B-52s flew on airborne alert. Fortunately, the Soviets stepped back from the abyss on October 29, 1962, pulling the missiles from Cuba while Kennedy secretly agreed to withdraw U.S. missiles from Turkey. In this most dramatic Cold War incident of nuclear brinkmanship, the Soviets had blinked.



Saber Hall (the old SAC Alert building) in 1970, then in use as an AH-1 Cobra training facility

Materiel Air Transport Service

Within six months of the end of the Cuban Missile Crisis, all SAC aircraft had left Hunter AFB. In April 1963, SAC transferred Hunter AFB to the 63rd Troop Carrier Wing of MATS (Military Air Transport Service), which stationed sixty C-124 cargo planes and 4,300 men to the installation. By 1964, tenant units had also moved to the base, including the Coast Guard. The 63rd's missions were truly global, supporting humanitarian efforts, the Gemini NASA missions, and such military operations as the 1965 U.S. intervention in the Dominican Republic. Significantly, missions to Vietnam gradually increased as the decade wore on and the U.S. became more deeply involved in that country's affairs. In 1964, a year after MATS arrived, the Department of Defense announced the closing of Hunter AFB. Built as a SAC base, Hunter AFB did not have the facilities to support transport missions.

Vietnam and the Army's Arrival

In the late 1950s and early 1960s, the Army developed troop-carrying transport helicopters, helicopter gunships designed for close air support, and tactical doctrine for airmobile warfare. These innovations paid off when the U.S. became involved in the Vietnam War.

In 1965, U.S. combat troops were sent to bolster a shaky authoritarian regime in South Vietnam fighting against an insurgency sponsored by Communist North Vietnam. The

The AH-1 Cobra



An AH-1 Cobra lands in the Oglethorpe Mall parking lot in 1972. The aircraft entered service in 1967 and saw extensive use in Vietnam. Hunter Army Airfield was the only location in the United States during the Vietnam War where aviators could train on the Cobra. The Army has since phased out the Cobra, but it is still used by the Marine Corps.

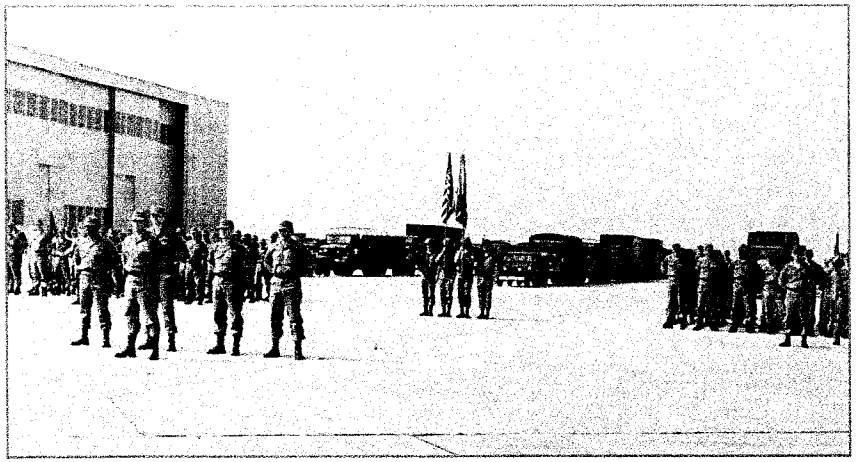
helicopter became the crux of the Army's tactical efforts, essential in jungle terrain for air transport, fire support, medical evacuation, and supply.

The need for more helicopter pilots drove the expansion of the Army's aviation program, which saved Hunter AFB as a military base. In December 1966, the Department of Defense announced that the official new home of the Army's Advanced Flight Training Center (AFTC) would be Hunter Army Airfield (HAAF) and Fort Stewart. The airfield's massive parking apron, built by SAC for jet bombers, offered more than enough space for helicopter training operations.

HAAF became one of the Army's key helicopter training sites during the Vietnam War. Between 1967 and 1972, HAAF and Fort Stewart trained 11,000 rotary wing pilots and 4,328 fixed wing pilots, including 1,400 South Vietnamese aviators. The U.S. withdrew all combat troops from Vietnam in the early 1970s, and, in 1972, the Army closed HAAF. In 1975, North Vietnam conquered South Vietnam, closing an ignominious chapter in American history.

Hunter Army Airfield: 1974 to 2001

The Army reopened HAAF in 1974 and designated it a sub-post of Fort Stewart and a base for the 24th Division's helicopter and support elements. In 1978, the 1st Battalion, 75th Ranger Regiment, moved to HAAF as a tenant unit.



Hunter Army Airfield is reactivated, 1974.

By the late 1970s, HAAF had become the U.S. Army's premier rapid deployment node on the eastern seaboard, thanks in no small part to facilities left behind by the Air Force, including the runway, parking apron, and the old SAC alert area, now known as Saber Hall. Special Forces troops or elements of the 24th Division could deploy as rapidly as possible to nearly anywhere in the world, making it a potent offensive resource during the Cold War. The installation's effectiveness was demonstrated by its use as a rapid deployment center during the 1983 Grenada invasion, when the U.S. squelched a Cuban-sponsored Marxist island state in the Caribbean.

In 1990, the Soviet Union collapsed, relegating Communism to the dustbin of history. For forty years the installation's purpose had been largely geared to the ongoing Cold War. What would the future hold for Hunter Field, and indeed the U.S. military?

In 1990–1991, the 24th Infantry Division participated in Operations Desert Shield and Desert Storm, taking part in the liberation of Kuwait and the destruction of much of Saddam Hussein's Iraqi Army. However, few missions in the 1990s had the clarity of Desert Storm, and the Army conducted multiple open-ended peace-keeping and humanitarian missions in countries as diverse as Haiti, Somalia, and the former Yugoslavia, with mixed results. In the middle of this uncertain decade, in 1996, the 24th Infantry Division was re-flagged the Third Infantry Division, "The Rock of the Marne."

Confronting Global Jihad: 2001 to the Present

After a close and controversial election, George W. Bush was sworn into office as president in January 2001. On September 11 of that year, al-Qaeda terrorists flew three passenger aircraft into the Pentagon and World Trade Center towers, killing 3,000 people. Once again America was at war, although not with a traditional enemy, but an extremist religious movement.

The current protracted guerrilla conflicts in Afghanistan and Iraq—part of the larger War on Terror—have accelerated changes in organization and doctrine and increased the construction tempo on Army bases. Within this context, HAAF continues to be an important Army deployment and support base thanks to existing airfield facilities and its location adjacent to Fort Stewart and the east coast ports of Savannah and Charleston. HAAF's status shows no sign of changing soon, particularly since Army reorganization and withdrawal from Europe means more troops will be stationed on the installation.

Some sixty years ago, the Air Corps developed an airfield that over the years has adapted to the military's changing needs, serving first as a bomber and air transport base for the Air Force, then as an Army helicopter training base, and finally as a rapid deployment node and home for an infantry division's aviation units and various Special Operations, Marine Corps, Coast Guard, and Air Force tenants. Hunter Army Airfield continues to adapt, driven by changing strategic and operational realities of the Global War on Terror. While the war will eventually pass into history, it will not mark the final chapter in this installation's history.



Third Division troops, returning from OIF III deployment in December 2005, walk through the massive doors of Building 850, a historic Strategic Air Command hangar.

Sources

Burr, Jack
Personal interview, October 11, 2002.

Dick, Ron
Reach and Power. U.S. Air Force, Washington, DC: 1997.

Hall, R. Cargill
Case Studies in Strategic Bombardment. U.S. Air Force, Washington, DC: 1998.

Harris, Joseph Butler
Personal interview, April 17, 2002.

Kerr, Joseph
Personal interview, April 10, 2002.

Maggioni, Joseph P.
Hunter Army Airfield: A Developmental History. Fort Stewart: 2005.

Hunter Army Airfield Flightline Mitigation Report, vol. 1. Fort Stewart: 2005.

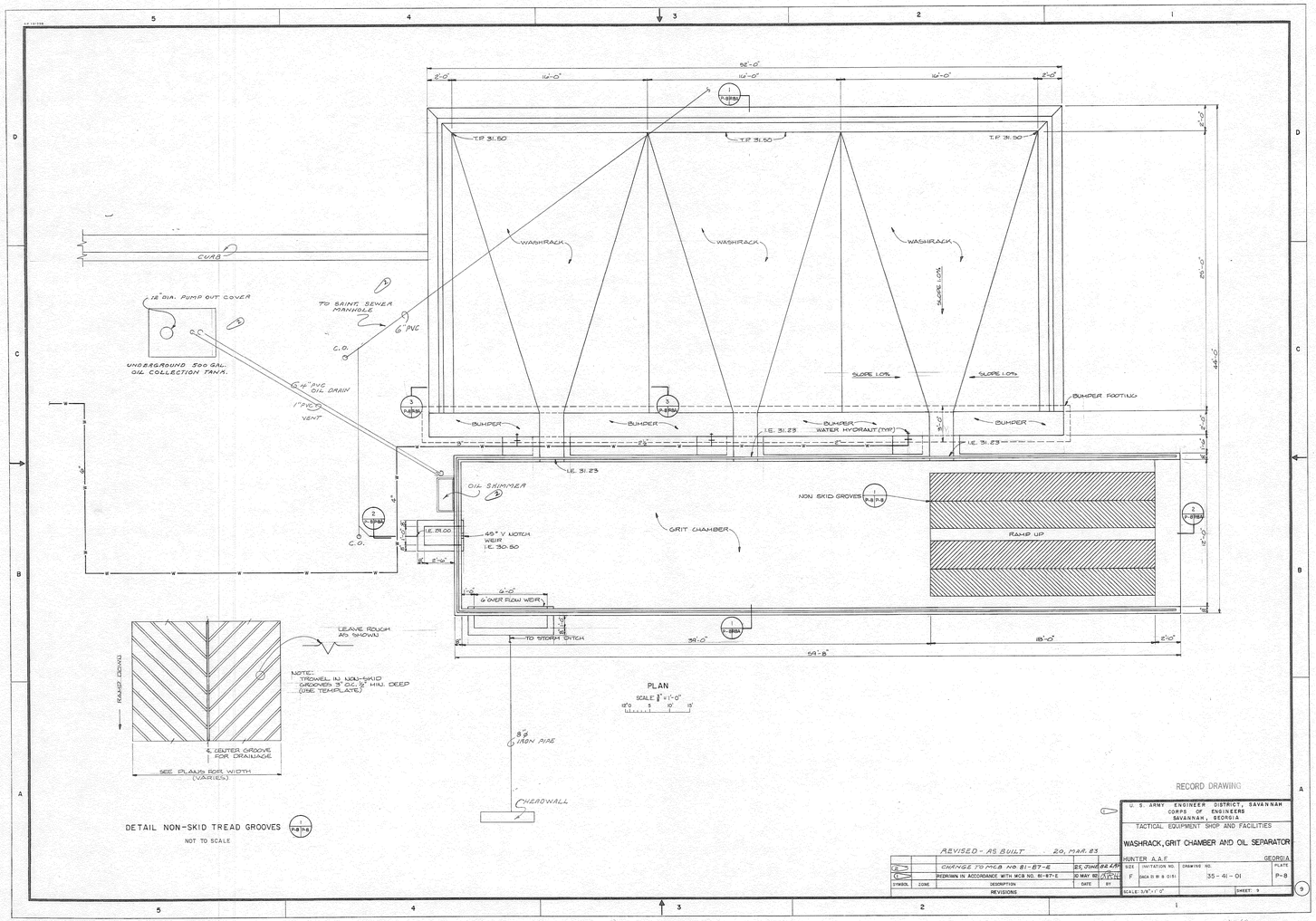
Tapert, Annette (editor)
Lines of Battle: Letters from American Servicemen, 1941–1945. Pocket Books, New York: 1989.

Weitze, Karen J.
Cold War Infrastructure for SAC. Corps of Engineers, Fort Worth: 1999.

Illustration Credits

Air Force Historical Research Agency 9, 17, 19
Associated Press/World Wide Photo 7
Bull Street Library (Municipal Airport Vertical File) [Strachan] 2, 4
Dick, Ron (1997) 11, 13
Esquire Magazine, May 2005 16
Georgia Historical Society (Cordray-Foltz Collection) [WPA Hangar] 4
Grashof, Beth ..... Cover, 6
Hall, R. Cargill (1998) 10
Mighty Eighth Air Force Museum (John Baker Collection) [HAAF Then] 8
Mighty Eighth Air Force Museum (John Baker Collection) [Hardstand 13] 12
Mighty Eighth Air Force Museum (Holly Lantz Collection) 15
National Archives and Records Administration [Bldg. 850 & Pinwheel Barracks] 12
U.S. Army 5, 20–23
U.S. Army (Ft. Stewart/HAAF DPW, Environmental Div.) [HAAF Now] 8
Weitze, Karen J. (Courtesy Geomarine, Inc.) 18

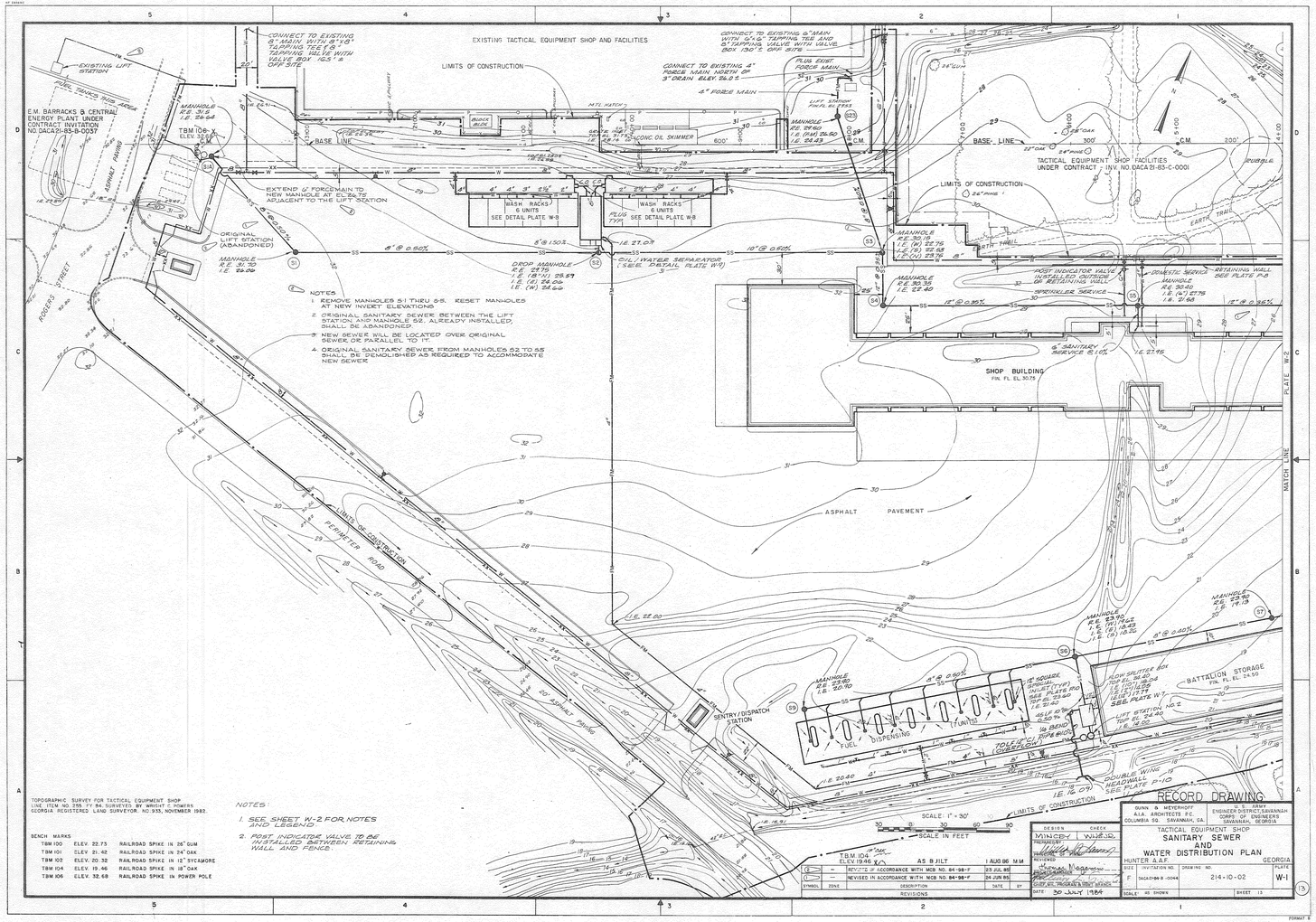
1310 Motor Pool



HARGREAVES 105

1310

Bldg 1336



NOTES

1. REMOVE MANHOLES S-1 THRU S-5. RESET MANHOLES AT NEW INVERT ELEVATIONS
2. ORIGINAL SANITARY SEWER BETWEEN THE LIFT STATION AND MANHOLE S2, ALREADY INSTALLED, SHALL BE ABANDONED
3. NEW SEWER WILL BE LOCATED OVER ORIGINAL SEWER OR PARALLEL TO IT.
4. ORIGINAL SANITARY SEWER FROM MANHOLES S2 TO S5 SHALL BE DEMOLISHED AS REQUIRED TO ACCOMMODATE NEW SEWER

NOTES:

1. SEE SHEET W-2 FOR NOTES AND LEGEND.
2. POST INDICATOR VALVE TO BE INSTALLED BETWEEN RETAINING WALL AND FENCE.

TOPOGRAPHIC SURVEY FOR TACTICAL EQUIPMENT SHOP LINE ITEM NO. 259, FY 84, SURVEYED BY WRIGHT C. POWERS GEORGIA REGISTERED LAND SURVEYOR NO. 933, NOVEMBER 1982.

BENCH MARKS

TBM 100	ELEV. 22.73	RAILROAD SPIKE IN 26" GUM
TBM 101	ELEV. 21.42	RAILROAD SPIKE IN 24" OAK
TBM 102	ELEV. 20.32	RAILROAD SPIKE IN 12" SYCAMORE
TBM 104	ELEV. 19.46	RAILROAD SPIKE IN 18" OAK
TBM 106	ELEV. 32.68	RAILROAD SPIKE IN POWER POLE

SYMBOL	ZONE	DESCRIPTION	DATE	BY
		REVISIONS		
C	--	REVISED IN ACCORDANCE WITH MCB NO. 84-98-F	24 JUN 85	
B	--	REVISED IN ACCORDANCE WITH MCB NO. 84-98-F	23 JUL 85	
A	--	AS BUILT	1 AUG 85	M M

DESIGN CHECK
MINCEY WILKES
PROJECT ENGINEER
APPROVED
CHIEF, ENGINEERING DIVISION
CHIEF, MCL PROGRAM & DEVELOPMENT BRANCH
DATE 30 JULY 1984

RECORD DRAWING

GUNN & MEYERHOFF A.I.A. ARCHITECTS P.C. COLUMBIA SQ. SAVANNAH, GA.

U. S. ARMY ENGINEER DISTRICT, SAVANNAH CORPS OF ENGINEERS SAVANNAH, GEORGIA

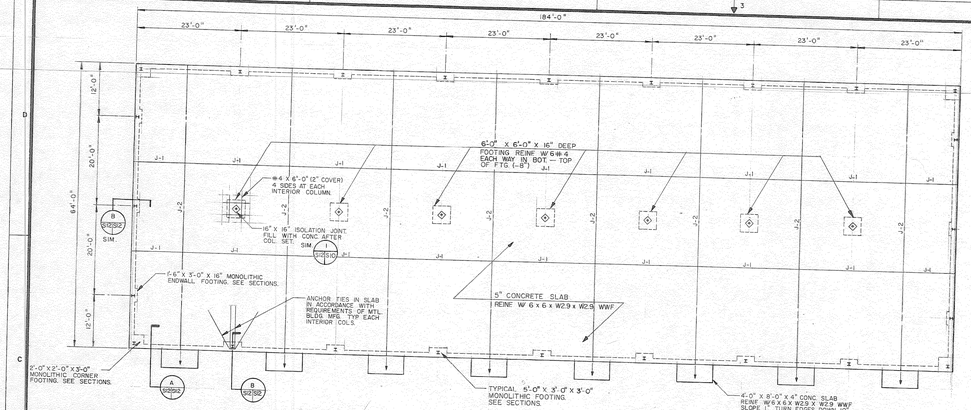
TACTICAL EQUIPMENT SHOP
SANITARY SEWER
AND
WATER DISTRIBUTION PLAN
HUNTER A.A.F. GEORGIA

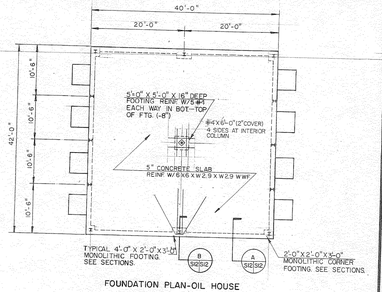
SIZE	INVITATION NO.	DRAWING NO.	PLATE
F	DACA21-83-B-0044	214-10-02	W-1
SCALE: AS SHOWN		SHEET 13	

FORMAT E

Fuel Dispensing was removed

POL Storage Yard Bldg 1345 + 1346





FOUNDATION PLAN-OIL HOUSE
SCALE: 1/8"=1'-0"

PRE-ENGINEERED METAL BUILDING

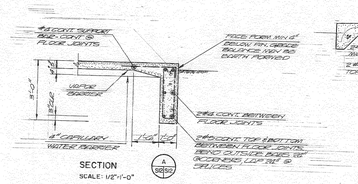
1. LOADING REQUIREMENTS AS PER ANSI A58.1-1982
   (a) LOADS:
   (1) LIVE LOAD: ROOF: 20 PSF
   (2) DEAD LOAD: BLDG. COMPONENTS + 5 PSF
   (3) WIND LOAD: 110 MPH
   (b) WIND BRACING:
   FRAME BRACING & ANCHORAGE SHALL BE CAPABLE OF RESISTING WIND LOADS DEVELOPED BY 110 MPH WIND VELOCITY IN ACCORDANCE WITH PROVISIONS OF ANSI A58.1-1982.
2. GENERAL:
   (c) BATTALION STORAGE BUILDINGS AND OIL STORAGE SHALL BE PRE-ENGINEERED STRUCTURES AS SPECIFIED IN SECTION "METAL BUILDINGS." EACH BUILDING SHALL BE A MANUFACTURER'S STANDARD PRECABRICATED METAL STRUCTURE OF THE APPROXIMATE INSIDE AREA SHOWN, EXCEPT AS NOTED. RIGID FRAMES SHALL BE SPACED, AS SHOWN, BUT OVERALL DIMENSIONS AND CONSTRUCTION DETAILS MAY VARY TO SUIT MANUFACTURER'S STANDARD DESIGN.
   (b) BUILDINGS SHALL BE DESIGNED AND FABRICATED ACCORDING TO AISC AND AISI LATEST SPECIFICATIONS. THE DIMENSIONAL TOLERANCES OUTLINED IN THE AWS CODE UNDER WORKMANSHIP AND THE TOLERANCES APPLICABLE TO ROLL FORM STEEL UNDER THE AISC "STANDARD MILL PRACTICE" SECTION SHALL BE REQUIRED IN THE FABRICATION OF THE STEEL BUILDING FRAMES.
   (c) A COMPLETE DESIGN ANALYSIS SHOWING ALL CALCULATIONS FOR THE RIGID FRAMES, GIRTS, & PURLINS AND A LAYOUT OF ANCHOR BOLTS AND OTHER EMBEDDED ITEMS SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP DRAWINGS. SHOP DRAWINGS SHALL INCLUDE DETAILS OF ALL MAIN MEMBERS, TYPICAL CONNECTIONS (SHOWING BOLT HOLES AND WELDS), AND ERECTION DRAWINGS.
   (d) THE BUILDING SHALL BE DESIGNED TO SUPPORT ALL MECHANICAL EQUIPMENT INCLUDING HEATERS, SPRINKLERS, EXHAUST SYSTEMS AND ALL OTHER SUCH DEVICES. ADDITIONAL GIRTS OR PURLINS SHALL BE PLACED IN CONVENIENT LOCATIONS FOR ATTACHMENT OF ALL MECHANICAL EQUIPMENT.
   (e) LOADING AND LOAD COMBINATIONS SHALL BE IN ACCORDANCE WITH THE MBMA "METAL BUILDINGS SYSTEMS MANUAL", LATEST EDITION.
   (f) CROSS BRACING SHALL BE USED TO TAKE LATERAL LOADS.
   (g) THE FOUNDATIONS SHOWN ARE ESTIMATES FOR THE BUILDING TYPE SHOWN ON THE DRAWINGS AND ARE TO BE USED AS A GUIDE FOR THE BUILDING SUPPLIED. THE CONTRACTOR SHALL DESIGN THE FOUNDATIONS FOR THE LOADS SHOWN AND THE BUILDING SUPPLIED.
   (h) THE CONTRACTOR SHALL USE IN HIS DESIGN THE BASIC CRITERIA SHOWN BY THIS DRAWING, SUCH AS SLAB THICKNESS, CONTROL JOINTS, CAPILLARY WATER BARRIER, VAPOR BARRIER, DESIGN LOADS AND MINIMUM DEPTH OF FOOTING.
   (i) FOOTINGS SHALL BE SIZED FOR AN ALLOWABLE SOIL BEARING VALUE 2000 PSF. THIS VALUE IS BASED ON A MINIMUM FOOTING WIDTH OF 2 FEET AND A MINIMUM DEPTH OF 3 FEET, TO THE BASE OF THE FOOTING, MEASURED FROM FINISH FLOOR OR FINISH GRADE ELEVATION, WHICHEVER IS LOWER.
   (j) FOUNDATION DESIGN SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED FOR APPROVAL AS PART OF THE SHOP DRAWINGS.

COLUMN REACTIONS

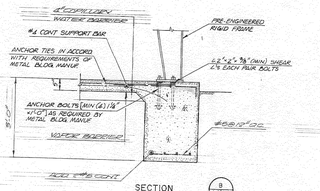
DL + LL ONLY	
12.9k	12.9k
25.8k	

WIND ONLY	
9.4k	9.4k
18.8k	

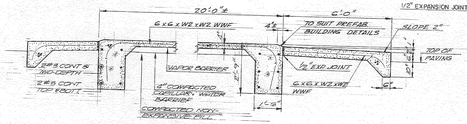
FLOOR PLAN- BATTALION STORAGE
SCALE: 1/8"=1'-0"



SECTION
SCALE: 1/2"=1'-0"



SECTION
SCALE: 3/4"=1'-0"



SECTION
SCALE: 1/2"=1'-0"



NOTE: ACTUAL BUILDING SLAB DIMENSIONS TO SUIT MANUFACTURER

CONTROL HOUSE/SENTRY STATION FOOTING/SLAB PLAN
SCALE: 1/4"=1'-0"

SCALE: 1/2"=1'-0"
12" 0 1' 2' 3' 4'

SCALE: 1/4"=1'-0"
2'-0 5' 10'

SCALE: 1/8"=1'-0"
0'-0 5' 10' 15'

RECORD DRAWING

SYMBOL	ZONE	DESCRIPTION	DATE	BY
		AS BUILT	14 AUG 86	M M

REVISIONS

GUNN & MEYERHOFF A.I.A. ARCHITECTS P.C. COLUMBIA SQ. SAVANNAH, GA.

U. S. ARMY ENGINEER DISTRICT, SAVANNAH CORPS OF ENGINEERS SAVANNAH, GEORGIA

TACTICAL EQUIPMENT SHOP

BATTALION STORAGE AND OIL HOUSE FOUNDATION PLAN

HUNTER A.A.F. GEORGIA

SIZE	INVITATION NO.	FILE NO.	PLATE
F	DACA21-86-B-0044	214-10-02	S-12
SCALE: AS SHOWN		SHEET 32	

Bldg 1354 High Security

