Final

Fort Richardson Operable Unit B Poleline Road Disposal Area Groundwater Monitoring Report Spring and Fall 2009

Prepared for

U. S. Army, Alaska, Directorate of Public Works

Under Contract to

U.S. Army Corps of Engineers
Contract No. W911KB-08-D-0005, Task Order 001

December 2010

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Abbreviations

µg/L	micrograms per liter
1,1,1-TCA	1,1,1-Trichloroethane
1,1-DCE	1,1-Dichloroethene
1,1,2-TCA	1,1,2-Trichloroethane
1,1,2,2-PCA	1,1,2,2-Tetrachloroethane
1,2-DCA	1,2-Dichloroethane
AAC	*Alaska Administrative Code*
ADEC	Alaska Department of Environmental Conservation
AS	air sparging
bgs	below ground surface
CAIS	chemical agent identification sets
carbon TET	carbon tetrachloride
cis-1,2-DCE	cis-1,2-dichloroethene
COCs	contaminants of concern
CRREL	Cold Regions Research and Engineering Laboratory
DCE	tetrachloroethene
DNAPL	dense non-aqueous-phase liquids
DPW	U.S. Army Directorate of Public Works
EPA	U.S. Environmental Protection Agency
HHRA	human health risk assessment
HVE	high-vacuum extraction
MCL	maximum contaminant level
mg/L	milligrams per liter
M-K	Mann-Kendall
MS	matrix spike
MSD	matrix spike duplicate
MSL	mean sea level

NAPL	non-aqueous-phase liquids
OUB	Operable Unit B
PRDA	Poleline Road Disposal Area
PCE	tetrachloroethene
RAO	remedial action objective
RBC	risk-based concentration
ROD	Record of Decision
SVE	soil vapor extraction
TBW	to be watched
TCE	trichloroethene
TOC	top of casing
trans-1,2-DCE	trans-1,2-Dichloroethene
USACE	U.S. Army Corps of Engineers
USARAK	U.S. Army Alaska
VOC	volatile organic compound

Executive Summary

This report presents the results of the spring and fall 2009 groundwater monitoring events conducted at the Operable Unit B, Poleline Road Disposal Area (PRDA), Fort Richardson, Alaska. This work was performed by Shannon & Wilson, Inc. for the U.S. Army Directorate of Public Works under U.S. Army Corps of Engineers Contract No. W911KB-08-D-0005, Task Order 001. Historic data were reviewed in order to assess trends in contaminant concentrations.

Groundwater monitoring was conducted at PRDA and included collecting samples from monitoring wells and analyzing them for volatile organic compounds (VOCs) and natural attenuation parameters. The most recent VOC results generally fell within range of the historic results and tended to fall into the historic concentration patterns of the individual wells. Mann-Kendall analysis was performed to identify trends for various contaminants of concern at individual wells; the results indicate significant declining trends exist for ten wells within and downgradient of the former disposal area. Several increasing trends of chlorinated daughter products were present for hot-spot and downgradient, shallow wells; these increases appear to be associated with natural attenuation processes.

Additional parameters were analyzed to help evaluate natural attenuation at the site. The analytes included sulfate, chloride, methane, ethane, ethene, total nitrate/nitrite, iron, and manganese, as well as the field parameters dissolved oxygen and pH. Overall, concentrations of natural attenuation parameters were supportive of the presence of active reductive dechlorination.

Although a number of wells at the PRDA site have concentrations of contaminants that remain above remedial action objectives (RAOs), overall site contaminant levels appear to be decreasing. The extent of the contamination plume has continued to remain stable and is bounded to the north and northwest by AP-5246 and AP-4350, respectively, in the deep aquifer. The contamination plume in the shallow aquifer is bounded by AP-4352 to the north; however, the boundary north-northeast of AP-3747 is not defined. The presence of daughter products in almost all wells with contaminant concentrations above the RAOs, and the positive indications observed in the levels of other monitored natural attenuations parameters, indicate that reductive dechlorination is effectively occurring at the site.

SECTION 1

Introduction

This report presents the results of the spring 2009 (May 26 through June 3) and fall 2009 (September 29 through October 12) groundwater monitoring activities conducted at the Operable Unit B (OUB), Poleline Road Disposal Area (PRDA), Fort Richardson, Alaska. This effort was completed by Shannon & Wilson, Inc. (Shannon & Wilson) for the U.S. Army Directorate of Public Works (DPW) and U.S. Army Corps of Engineers (USACE) in accordance with the scope of work for Contract No. W911KB-08-D-0005, Task Order 001.

1.1 Project Overview

The purpose of this reporting effort is to transmit the results of recent activities completed as part of the Fort Richardson Groundwater Monitoring Program at PRDA. The current program was initiated as part of the Long-Term Monitoring Work Plan in 1997. Activities during 2009 included two groundwater sampling events and depth-to-water surveys. Groundwater monitoring is currently scheduled to be conducted twice per year. This report presents historical data collected at PRDA since 1995 and details of the sampling effort conducted by Shannon & Wilson during spring and fall 2009.

1.2 Site Location and Description

PRDA lies approximately 10 miles northeast of Anchorage, Alaska, 1 mile south of Eagle River, and 0.6 mile north of the Anchorage Regional Landfill (Figure 1-1). Poleline Road, a gravel road that travels northeast-southwest along a powerline route and the Eklutna Water Line, provides access to PRDA.

PRDA is a low-lying, flat area bordered by an 80-foot hill to the west; wetlands to the south and southwest; and low, wooded hills on the remaining borders (Figure 1-2). Areas A-1 through A-4 represent the main disposal area, which comprises approximately 1.5 acres. Vegetation was cleared from the main disposal area in 1994, and much of the area is now populated by sapling birches, poplars, and alders.

The U.S. Army currently uses the land around PRDA for training activities and recreational purposes. The Eklutna Water Line, which supplies Anchorage and part of Eagle River with drinking water, runs directly west of PRDA. No plans currently exist for development at PRDA (URS, 2001).

1.3 Geology and Hydrogeology

Fort Richardson is located within the Cook Inlet-Susitna Lowland Section of the Coastal Trough physiographic province of Alaska. The majority of Fort Richardson lies less than 492 feet above mean sea level (MSL), with local relief varying between 50 and 250 feet MSL. The geology of Fort Richardson occurred primarily as a result of past glacial events

and consists of the Elmendorf moraine, alluvial fans, and glacial outwash deposits. The hydrogeology of Fort Richardson, while extremely variable across the facility, is made up of three primary aquifers—a discontinuous perched unconfined aquifer, a shallow unconfined aquifer, and a deep confined aquifer.

The PRDA site is located within a lowland area with a complex geology resulting from periods of repeated glaciations. Glacial sediments and glacial tills make up the aquifer material beneath the site, which consists of a range of material from clay to boulders (Woodward Clyde, 1998). The unconsolidated material at the site was reworked by prehistoric glacial melt-water rivers, resulting in the complex distribution of laterally and vertically discontinuous layers and lenses observed at the site (Cold Regions Research and Engineering Laboratory [CRREL], 2003). Bedrock was encountered at a depth of approximately 69 feet below ground surface (bgs) in the southern portions of the site and in excess of 161 feet bgs in wells north of the site (Woodward Clyde, 1998).

The cross-section shown in Figure 1-3 presents a conceptual model of the site. (The location of the cross-section is also indicated in Figure 1-3.) The figure was developed based on information presented by Woodward Clyde (1998) and CRREL (2003).

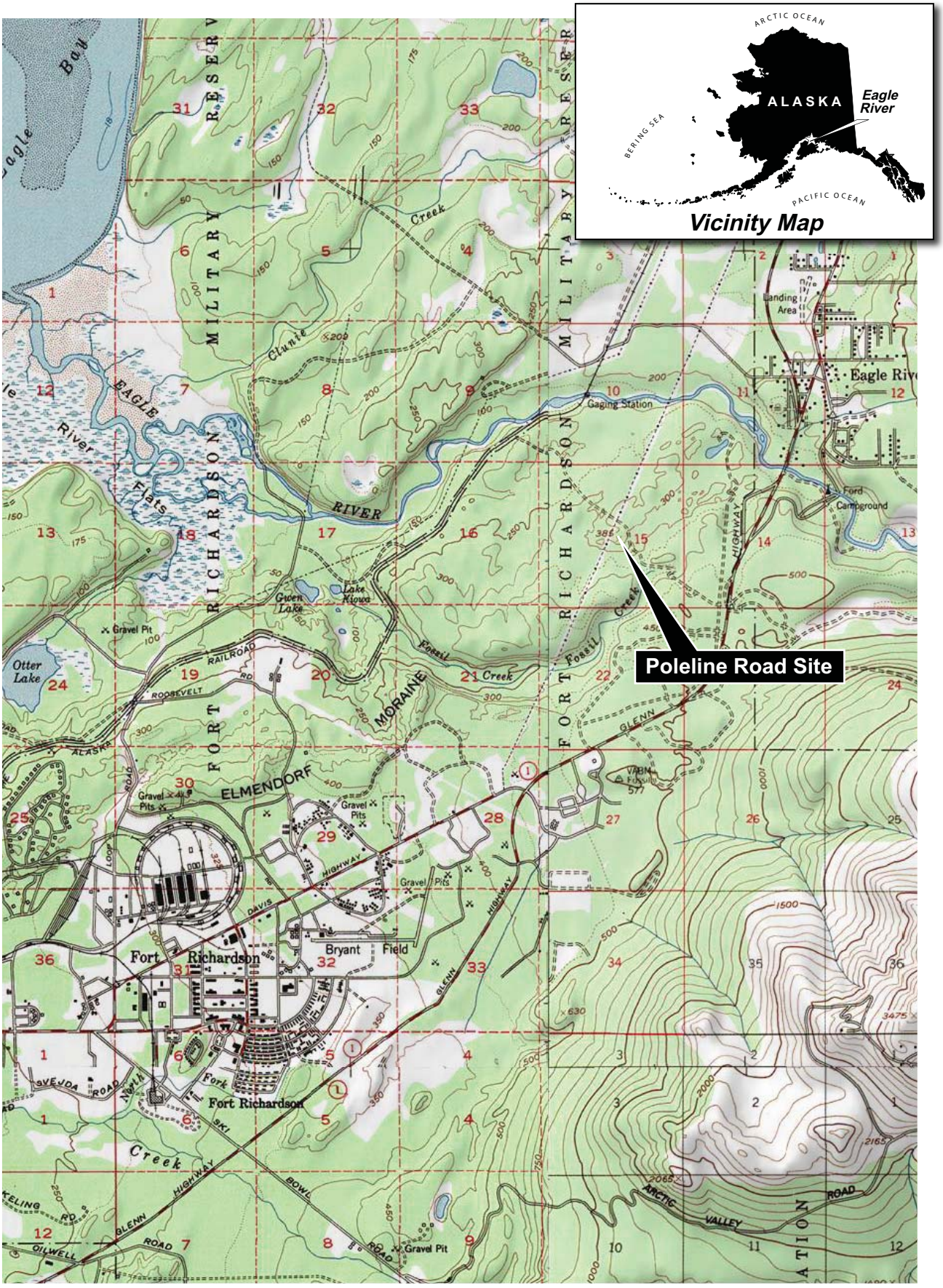
Although the unconsolidated material over the bedrock is considered quite heterogeneous, several geologic units and intervals have been identified.

Shallow interval—The upper interval is present from the ground surface to a depth of approximately 40 feet bgs. This interval consists primarily of silty sands and gravels with frequent, discontinuous silt-rich and clay lenses. The silt and clay lenses act as barriers to vertical flow, creating zones of perched groundwater, non-aqueous-phase liquids (NAPL) and dense non-aqueous-phase liquids (DNAPL). The shallow interval is normally saturated from approximately 20 to 40 feet bgs.

Intermediate interval—The intermediate interval is an aquitard consisting of poorly sorted and silt-rich sand and gravel (CRREL, 2003). This material has been previously described as a basal till (Woodward Clyde, 1998) and diamicton (CRREL, 2003). The intermediate interval is lithologically similar to the shallow interval, but is considerably denser (Woodward Clyde, 1998). Although the intermediate interval serves as somewhat of a barrier, groundwater gradients suggest flow is occurring through the intermediate interval from the shallow saturated interval to the deep saturated interval. Perched water zones have been encountered during drilling through the intermediate zone.

Deep interval—The deep interval consists of a sand and gravel unit lying on top of the bedrock. The deep interval is from 10 feet to greater than 59 feet thick, and groundwater is encountered at a depth of approximately 161 feet bgs.

Groundwater is encountered in a shallow (unconfined) aquifer, and a deep (semi-confined aquifer). The aquifer material encountered in these zones has dry bulk densities estimated to be 120 pounds per cubic foot and porosities of about 21 to 27 percent (Woodward Clyde, 1998).

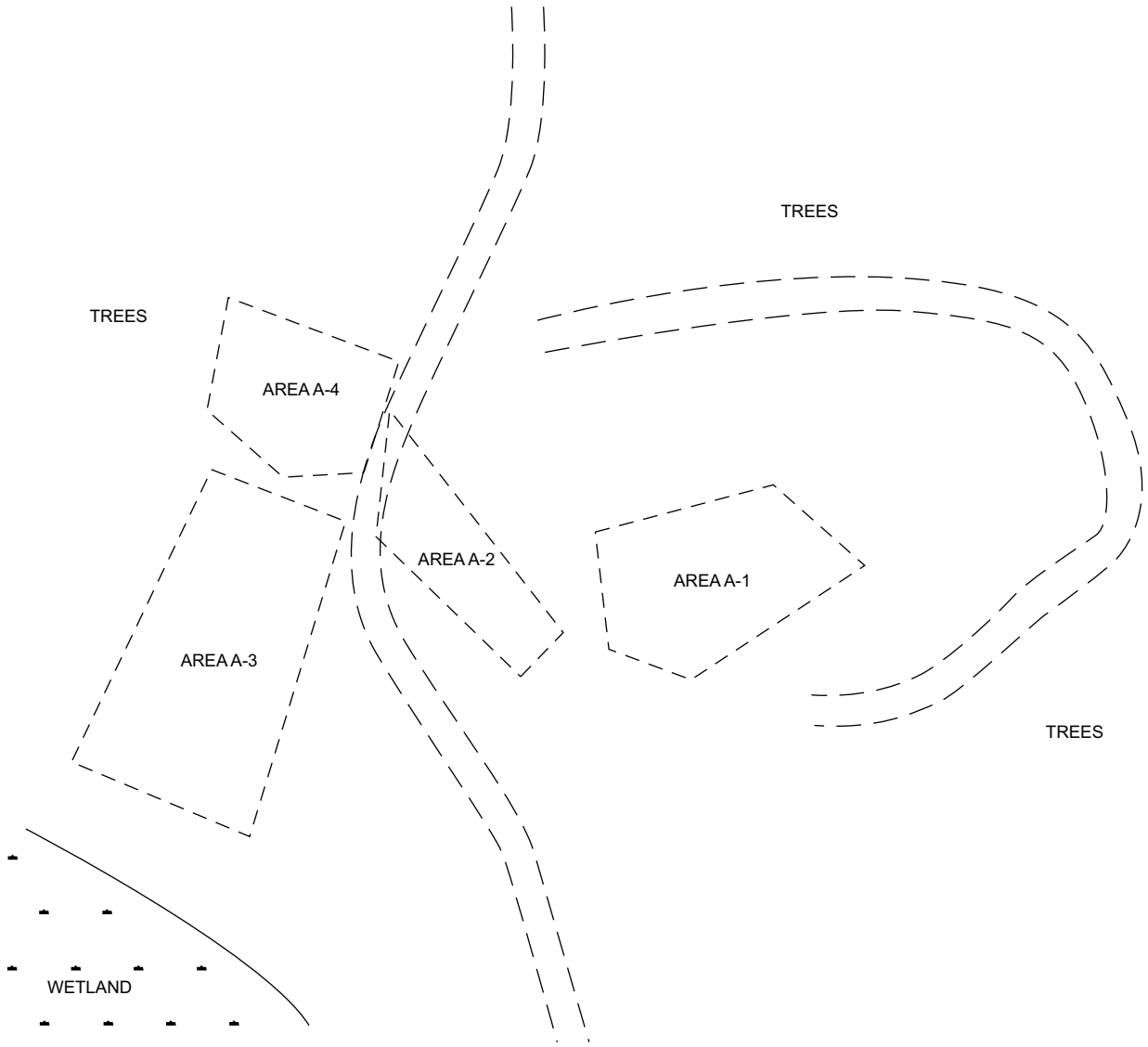


Source: USGS Quadrangle Anchorage (B-7) SW, Alaska

FIGURE 1-1
Site Location Map
Operable Unit B, Poleline Road Disposal Area
Ft. Richardson, Alaska

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Figure 1-1 back



North

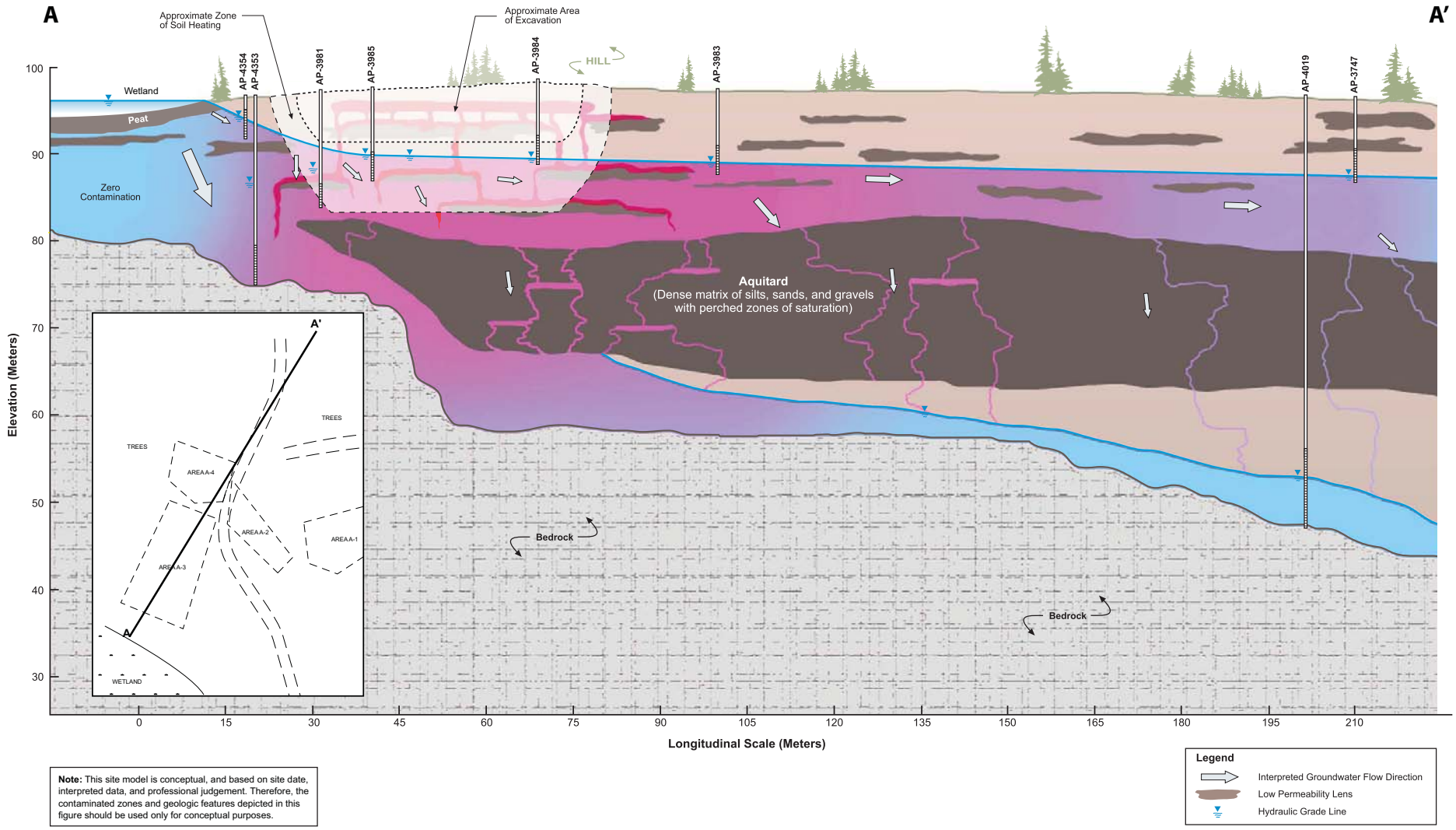
0 100 200

Approximate scale in feet

FIGURE 1-2
Site Map OUB, Poleline Road Disposal Area
Fort Richardson, Alaska

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Figure 1-2 back



Note: This site model is conceptual, and based on site date, interpreted data, and professional judgement. Therefore, the contaminated zones and geologic features depicted in this figure should be used only for conceptual purposes.

FIGURE 1-3
Conceptual Site Model
Fort Richardson, Alaska

Figure prepared by CH2MHill Consultants. Used with permission of US Army Corps of Engineers.

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Figure 1-3 back

Local groundwater flow in and adjacent to the main disposal area has been the ongoing subject of study by CRREL and is fairly well documented in both the shallow and deep groundwater aquifers. The groundwater hydraulics at the site appears to be driven primarily by recharge from the wetlands area, and secondarily from surface infiltration across the site. As shown in Figure 1-3, water infiltrating from the wetlands area recharges both the shallow and deep saturated intervals. In both aquifers, groundwater flows generally to the northeast in this local area, with seasonal variations causing it to flow in more northerly or easterly directions (Figures 4-1 and 4-2 provide examples of recorded flow directions) (CRREL, 2003).

Groundwater flow further away from the main disposal area is the subject of ongoing study by CRREL, but is currently less thoroughly understood. Regional groundwater flow is generally known to flow toward the Eagle River (to the north) and toward Knik Arm (to the west.) Based on contaminant distribution and available elevation data, it appears that regional groundwater flow has a more prominent influence on wells located further to the north of the main disposal area (CRREL, 2003).

In addition, gradient measurements indicated relatively strong flow downward from the shallow to the deep interval. Groundwater gradients measured from 2001 through 2003 were in the range of 0.01 to 0.03 foot/foot for the shallow saturated interval and 0.06 to 0.2 foot/foot in the deep saturated interval. The estimation of groundwater gradients at this site is complicated by the occurrence of perched zones and significant vertical flow. Groundwater velocities at the site are difficult to estimate because of the wide range of material types. It is expected, however, that groundwater moves relatively slowly, at velocities in the range of 10^{-2} to 10^{-3} feet per day (CRREL, 2003).

1.4 Site Background and Current Use

Contamination at PRDA was first suspected after U.S. Army interviews with two former Fort Richardson soldiers in 1990; the soldiers recalled the disposal of chemicals, smoke bombs, and Japanese cluster bombs at the site during the 1950's. The disposal location was corroborated by a 1954 USACE map showing a "Chemical Disposal Area" at PRDA and by aerial photographs from 1954 and 1962 showing trenches and debris piles in the area. Figure 1-2 shows the locations of suspected disposal activities. The disposal area was active from approximately 1950 to 1972. Four separate burial areas were identified at PRDA: areas A-1 and A-2 are suspected to contain buried munitions, and areas A-3 and A-4 were used to dispose of chemical warfare decontamination kits and chemical agent identification sets (CAIS). During this time, standard military practice was to dispose of suspected chemical weapons in a series of four steps:

1. A layer of "bleach/lime" was laid down in the bottom of the trench.
2. The materials contaminated with chemical weapons were placed on a pallet in the trench.
3. Diesel fuel was poured on the agent and then ignited with thermal grenades.
4. After burning was completed, a mixture of either bleach or lime combined with a chlorinated solvent carrier (of trichloroethene [TCE]; tetrachloroethene [PCE]; and 1,1,2,2-tetrachloroethane [1,1,2,2-PCA]) was poured over the materials.

In 1990 and 1992, site investigations were conducted that included a geophysical survey, soil borings, a soil gas survey, monitoring well installations, groundwater sampling, water level survey, and aquifer (slug) tests.

On the basis of these early investigations, subsequent remedial investigations have been conducted under agreements with the U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC). A summary of these remedial investigations from 1990 through 2009 is presented in Table 1-1. Results of these investigations are summarized in subsequent sections of this report.

PRDA is currently a restricted-access site. Current land use near PRDA is not likely to result in the exposure of non-authorized personnel to site contaminants because of the limited amount of ground disturbing activity in the surrounding area. The U.S. Army currently uses the land around PRDA for training activities and recreational purposes; a utility corridor, including the Eklutna Water Line and Chugach power lines, runs directly west of OUB. No plans exist for development at PRDA (URS, 2001).

1.5 Summary of Contaminants

The primary source of contamination at PRDA consists of residual chlorinated solvents used by the U.S. Army in its past disposal practices for a wide variety of debris (including CAIS in areas A-3 and A-4.) The Record of Decision (ROD) identified the following contaminants in soil and groundwater:

- **Soil**—1,1,2,2-PCA and PCE were detected in subsurface soils at concentrations that contribute to groundwater contamination and cause exceedances of state and federal regulatory levels.
- **Groundwater**—Benzene, carbon tetrachloride (carbon TET); cis-1,2-Dichloroethene (cis-1,2-DCE); trans-1,2-Dichloroethene (trans-1,2-DCE); PCE; TCE; and 1,1,2,2-PCA were detected in groundwater at concentrations exceeding the federal drinking water maximum contaminant levels (MCLs)—or the risk-based concentration (RBC), in the case of 1,1,2,2-PCA.

TABLE 1-1
Poleline Road Disposal Area Activity History

Year	Organization/ Company	Activity
1990, 1992	Environmental Science & Engineering	Geophysical survey, soil borings, soil gas survey, monitoring well installation, groundwater sampling, water level survey, aquifer (slug) tests.
1993, 1994	OHM Remediation Services Corporation	Rapid response removal action within areas A-3 and A-4. Work was begun in 1993, but halted when CAIS and other chemical warfare-related materials were discovered unexpectedly. Removal was completed in 1994 after provisions were added to deal with the chemical warfare materials.
1994	CRREL	Geophysical surveys.
1995	URS	Remedial investigation, including surface and subsurface soil sampling, groundwater sampling, NAPL removal, and installation of several new monitoring wells.
1996	URS	Ecological risk assessment and HHRA, including groundwater sampling and modeling. A feasibility study was also conducted to determine remedial alternatives, including no action, natural attenuation, containment, interception trench/air stripping and SVE, AS/SVE and natural attenuation, NAPL removal, and SVE of the "hot spot."
1997	URS	Remediation study to provide data concerning the effectiveness of AS/SVE that included groundwater sampling and soil borings, NAPL removal.
1997	URS	Remediation study to evaluate effectiveness of SVE and six-phase soil heating that included soil borings, groundwater sampling, surface and subsurface soil sampling, and NAPL removal.
1998	URS	Dual-phased, HVE remediation study that included groundwater sampling, installing additional soil borings and monitoring wells, and subsurface sampling.
1999–2000	URS	Design verification study based on success of prior treatments selected SVE with heating to complete the remedial action; additional soil borings drilled and groundwater samples collected; NAPL removal.
2007	CH2M HILL, CRREL, USARAK, USACE	Two sets of nested well borings (shallow/deep) were installed as a data gap investigation to further evaluate subsurface geology and hydrogeology.
1995–2007	URS, CH2M HILL, USACE, Satori	Groundwater monitoring to collect data on groundwater contaminant trends. NAPL removal from wells where free product is identified.
2009	Shannon & Wilson, Inc.	Groundwater monitoring to collect data on groundwater contaminant trends.

Source: *Revised Final Fort Richardson Operable Unit B, Poleline Road Disposal Area, Groundwater Monitoring Report, October 2007 (*CH2M HILL, August 2008)

AS = air sparging
CAIS = chemical agent identification sets
CRREL= Cold Regions Research and Engineering Laboratory
HHRA = human health risk assessment
HVE = high-vacuum extraction
NAPL = non-aqueous-phase liquids
SVE = soil vapor extraction
USACE = U.S. Army Corps of Engineers
USARAK = U.S. Army Alaska

SECTION 2

Groundwater Quality Monitoring Program

The objective of the groundwater quality monitoring program is to evaluate groundwater conditions within and around the PRDA.

2.1 Regulatory Framework

The OUB site (which includes PRDA) is listed under the Federal Facility Agreement (also known as the "three-party agreement") among the U.S. Army, EPA, and ADEC. In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, a ROD was developed in 1997 to establish remedial action objectives (RAOs) for OUB.

The ROD identified the following contaminants of concern (COCs) at the PRDA site:

- Benzene
- Carbon TET
- cis-1,2-DCE
- trans-1,2-DCE
- PCE
- TCE
- 1,1,2,2-PCA

As part of the CLOSES evaluation (CH2M HILL, 2004), a comparison of available data from the 2002 and 2003 monitoring events to the Table C cleanup levels in Title 18, Chapter 75, of the *Alaska Administrative Code* (AAC) (ADEC, 2005) indicated that the following compounds were present at concentrations above the cleanup levels. These compounds are "to be watched" (TBW). The TBW compounds are as follows:

- Vinyl chloride
- 1,1,1-Trichloroethane (1,1,1-TCA)
- 1,1,2-Trichloroethane (1,1,2-TCA)
- 1,1-Dichloroethene (1,1-DCE)
- 1,2-Dichloroethane (1,2-DCA)

Observations about these contaminants are not intended to suggest that they are new COCs, but are provided for further discussion of contaminants present at the site; these compounds are most likely the result of degradation of the COCs. RAOs were not developed for the TBW chemicals.

The TBWs cis-1,2-DCE and trans-1,2-DCE are potential products of degradation (through various pathways) of the DNAPL components present at the site (1,1,2,2-PCA; TCE; and PCE). TCE is also a degradation product of both 1,1,2,2-PCA and PCE. A detailed evaluation of the degradation pathways is not included in this monitoring report, but

observations about the degradation products are discussed in the following sections, along with the COCs.

2.1.1 Remedial Action Objectives

As a part of the remedial investigation/feasibility study process, RAOs were developed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan and EPA guidance. The overall objective is to reduce contamination in groundwater at OUB to levels that do not pose a threat to human health or the environment.

RAOs are based on either human health risk estimates that exceed or fall within the 1×10^{-6} to 1×10^{-4} risk range, or on federal and state applicable or relevant and appropriate requirements. The objectives of remedial action at PRDA continue to be in accordance with the ROD signed in 1997 and are as follows:

- Reduce contaminant levels in the groundwater to comply with drinking water standards
- Prevent contaminated soil from continuing to act as a source of groundwater contamination
- Prevent the contaminated groundwater from adversely affecting the surface water and sediments of Eagle River
- Minimize degradation of the State of Alaska's groundwater resources at the site as a result of past disposal practices

2.1.2 Remedial Action Cleanup Levels

The following groundwater cleanup levels were established in the ROD:

- Federal and State of Alaska drinking water MCLs were adopted as groundwater cleanup goals for benzene; carbon TET; cis-1,2-DCE; trans-1,2-DCE; PCE; and TCE.
- The concentration corresponding to the EPA Region 3 RBC (10^{-4}) in residential drinking water was adopted as the cleanup goal for 1,1,2,2-PCA.

Numeric values for cleanup goals in groundwater are presented in Table 2-1.

2.2 Monitoring Locations

Table 2-2 lists the 26 groundwater monitoring wells that are part of the PRDA groundwater monitoring program, and Figure 2-1 shows the well locations. All the 26 wells were sampled in spring 2009, and 25 of the 26 wells were sampled during the fall 2009 sampling event. Table 2-2 also provides information on the screened interval of each well and the aquifer in which the well is located.

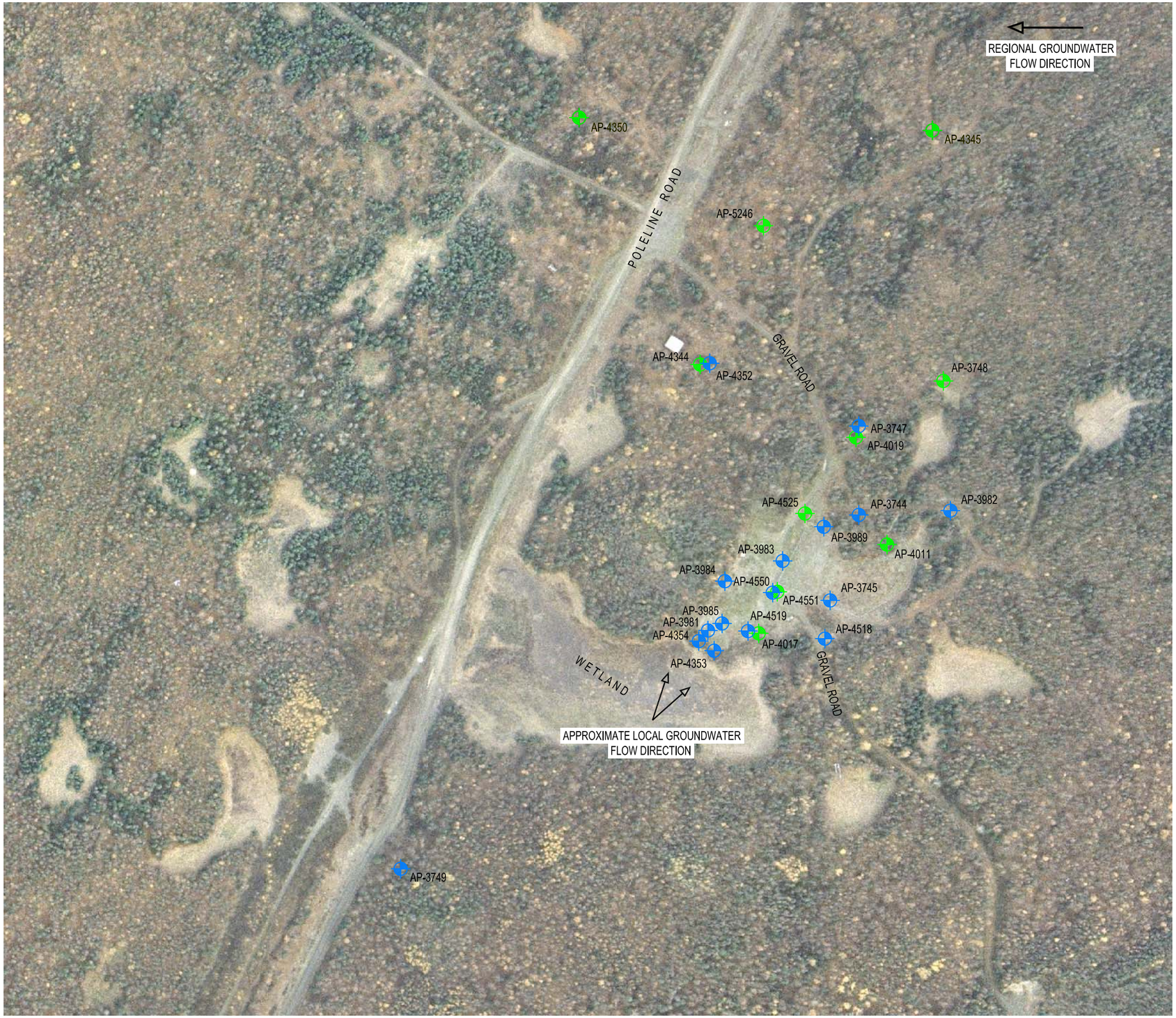
TABLE 2-1
Remedial Cleanup Goals for Groundwater

Contaminant of Concern	RAO (μg/L)	Source of RAO
Benzene	5	MCL
Carbon tetrachloride	5	MCL
cis-1,2-Dichloroethene	70	MCL
trans-1,2-Dichloroethene	100	MCL
Tetrachloroethene (PCE)	5	MCL
Trichloroethene (TCE)	5	MCL
1,1,2,2-Tetrachloroethane (1,1,2,2-PCA)	5.2	RBC
Post-ROD To-Be-Watched (TBW) Contaminants	**ADEC MCL**	**Source of MCL**
Vinyl Chloride	2	18 AAC 75.345, Table C
1,1,1-Trichloroethane	200	18 AAC 75.345, Table C
1,1,2-Trichloroethane	5	18 AAC 75.345, Table C
1,1-Dichloroethene	7	18 AAC 75.345, Table C
1,2-Dichloroethane	5	18 AAC 75.345, Table C

μg/L = micrograms per liter
MCL = maximum contaminant level (from Title 18, Chapter 75, of the *Alaska Administrative Code*)
RAO = remedial action objective
RBC = risk-based concentration (EPA Region 3 drinking water standards)
ROD = Record of Decision

2.3 Monitoring Frequency

According to the PRDA scope of work, well sampling is required twice yearly, with sampling scheduled for March and September. Depending on weather conditions and site accessibility, the actual sampling dates may be adjusted.



N

0 120 240 360

APPROXIMATE SCALE IN FEET

LEGEND

Monitoring Well Locations (Deep)

Monitoring Well Locations (Shallow)

OUB Poleline Road Disposal Area, 2009
Fort Richardson, Alaska

Groundwater Monitoring Locations and Results

December 2010 32-1-17261-721

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Fig. 2-1

TABLE 2-2
Operable Unit B Monitoring Wells

Monitoring Well ID	Screened Interval (feet bgs)	Total Depth (feet below TOC)[a] (spring/fall 2009)	Aquifer
AP-3744	26.5-36.5	37.60/37.60	Shallow
AP-3745	18.0-28.0	29.80/29.80	Shallow
AP-3747	20.0-30.0	32.20/32.20	Shallow
AP-3748	164.9-169.9	171.60/171.60	Deep
AP-3749	12.0-22.0	24.60/24.60	Shallow
AP-3981	29.0-39.0	40.70/40.70	Shallow
AP-3982	24.0-34.0	32.00/32.00	Shallow
AP-3983	18.0-28.0	30.30/30.50	Shallow
AP-3984	20.0-30.0	32.40/32.50	Shallow
AP-3985	22.0-32.0	32.60/ -	Shallow
AP-3989	24.0-34.0	36.30/36.30	Shallow
AP-4011	111.2-137.3	138.20/138.80	Deep
AP-4017	76.0-96.0	98.20/98.20	Deep
AP-4019	130.0-150.4	153.00/153.10	Deep
AP-4344	152.1-162.1	163.50/163.50	Deep
AP-4345	149.0-161.0	186.50/186.50	Deep
AP-4350	176.3-186.3	188.60/188.60	Deep
AP-4352	20.3-30.3	33.00/33.00	Shallow
AP-4353	57.0-67.0	70.00/69.40	Shallow
AP-4354	7.4-17.4	18.00/ -	Shallow
AP-4518	33.6-43.6	46.80/46.80	Shallow
AP-4519	33.9-43.9	47.10/47.10	Shallow
AP-4525	113.0-123.0	127.10/127.20	Deep
AP-4550	32.0-42.0	43.00/43.00	Shallow
AP-4551	87.7-97.7	98.30/98.00	Deep
AP-5246	148.0-158.0	161.00/161.00	Deep

[a] Total depths from field survey conducted in spring and fall 2009.
bgs = Below ground surface.
TOC = Top of casing.
- = Data rejected.

2.4 Groundwater Monitoring Parameters

Groundwater monitoring parameters are listed in Table 2-3.

TABLE 2-3
Groundwater Quality Monitoring Parameters

Purging Parameter[a]	**Equipment**
Water level	Water-level indicator
Conductivity	Calibrated YSI 556 water quality meter
Temperature	Calibrated YSI 556 water quality meter
Dissolved oxygen	Calibrated YSI 556 water quality meter
Oxidation reduction potential	Calibrated YSI 556 water quality meter
pH	Calibrated YSI 556 water quality meter
Turbidity	Calibrated Hach Turbidity meter
Laboratory Analytical Parameter	**Analytical Method**
Volatile organic compounds	SW 8260B
Chloride/sulfate	EPA 300.0
Nitrate/nitrite	SW 9056
Light gases (methane, ethane, ethene)	RSK 175
Dissolved iron and manganese	SW 6020

[a]Analyzed in the field at the time of sample collection.

SECTION 3

Field Activities

Groundwater monitoring activities during spring and fall 2009 consisted of monitoring the 26 wells for depth to groundwater and analyzing groundwater for the contaminants of concern and natural attenuation parameters (Table 2-3). Well AP-4352 was not sampled in fall 2009 because it was dry. The PRDA groundwater monitoring events were conducted from May 26 to June 3, 2009 for the spring sampling event and between September 29 and October 12, 2009 for the fall sampling event.

3.1 Groundwater Elevations

Water levels were recorded for the 26 and 25 program monitoring wells during the spring and fall sampling events, respectively. Well AP-4352 was dry in fall 2009. Table 3-1 lists the depth to water and calculated groundwater elevation for each well monitored during both groundwater monitoring events.

3.2 Groundwater Sample Collection

Twenty-six groundwater monitoring wells are included in the current groundwater monitoring program. During the spring 2009 groundwater monitoring events, all the 26 wells were sampled. During the fall 2009 monitoring event, 25 of the 26 wells were sampled; well AP-4352 could not be sampled because it was dry. Sample collection was performed in accordance with procedures outlined in CH2M HILL's *Quality Assurance Program Plan* (CH2M HILL, 2002); *Supplemental Quality Assurance Project Plan for Fort Richardson Groundwater Sampling at Operable Unit B, Operable Unit E, and Building 762* (CH2M HILL 2007a); *Sampling and Analysis Plan for Groundwater Monitoring at Fort Richardson Operable Unit B, Operable Unit E, and Building 762* (CH2M HILL, 2007b); and Shannon & Wilson's *Sampling and Analysis Plan Technical Memorandum, Groundwater Monitoring Fort Richardson, Alaska* (Shannon & Wilson, Inc., 2008). Wells were purged and sampled using a submersible Grundfos pump. Water sampling logs are provided in Appendix A.

3.3 Quality Assurance/Quality Control

The following four types of quality control samples were collected to ensure data quality:

- Trip blanks
- Field duplicates
- Matrix spike (MS)/matrix spike duplicate (MSD) samples
- Rinsate blanks

TABLE 3-1
Groundwater Elevations, Spring and Fall 2009

Monitoring Well ID	Depth to Water (feet below top of casing) (spring/fall 2009)	Groundwater Elevation[a] (feet above mean sea level) (spring/fall 2009)
AP-3744	29.18/27.95	277.93/279.16
AP-3745	23.18/23.45	280.28/280.01
AP-3747	27.23/27.58	275.84/275.49
AP-3748	134.89/134.86	165.35/165.38
AP-3749	22.40/22.18	289.57/289.79
AP-3981	24.99/25.12	281.13/281.00
AP-3982	27.75/28.10	277.99/277.64
AP-3983	25.76/25.91	279.41/279.26
AP-3984	29.32/29.43	281.63/281.52
AP-3985	27.06/27.28	281.14/280.95
AP-3989	29.65/29.75	278.34/278.24
AP-4011	121.77/122.11	179.82/179.48
AP-4017	65.47/66.17	24077/240.07
AP-4019	137.75/137.72	163.70/163.73
AP-4344	151.17/151.20	16235/162.32
AP-4345	157.23/157.20	164.23/164.26
AP-4350	149.51/149.59	159.60/159.52
AP-4352	24.87/ -	287.65/ -
AP-4353	33.41/33.30	271.86/271.97
AP-4354	9.63/13.61	295.74/291.76
AP-4518	26.91/27.10	280.07/279.88
AP-4519	26.97/27.07	280.32/280.22
AP-4525	126.51/126.51	179.78/179.78
AP-4550	26.81/26.99	280.22/280.04
AP-4551	95.63/95.90	211.10/210.83
AP-5246	151.63/151.65	162.02/162.02

[a] Elevations referenced to U.S. Army, June 2003 and August 2004, Survey of Operable Unit B
Datum = NAVD88, feet, state plane, Zone 4.
- = Water level could not be measured/calculated; the well was dry.

For the spring and fall sampling events, a total of 51 project samples, six field duplicates, 14 trip blanks, four MS/MSDs, and 14 rinsate blanks were submitted to the laboratory for analysis. Appendix B provides the Chemical Data Quality Review package for this project

and includes B1 — Data Quality Review, B2 — Validated Analytical Results, B3 — ADEC Laboratory Data Review Checklists, B4 — COCs and Sample Receipts, and B5 — COELT (electronic only). Because of their volume and file size, two sections are included only in electronic format: the raw data packages included in B-4 and the COELT (B5).

3.4 Investigation-Derived Waste Handling and Disposal

Water generated from well purging and equipment decontamination was collected in 55-gallon drums and transported to the environmental staging facility located at the petroleum, oil, and lubricants /Dewatering Facility near the corner of Warehouse Street and Loop Road for treatment and disposal. The water was transferred to 55-gallon drums at the facility in coordination with the contracted operator ENSR Alaska. ENSR transferred the contents of full drums to the on-site treatment system for processing and disposal.

SECTION 4

Results

This section presents the results of continued groundwater monitoring at the site and evaluates trends or changes in the concentrations of contaminants in groundwater over time.

4.1 Volatile Organic Compound Monitoring

Figure 4-1 includes analytical groundwater results from monitoring wells that are screened within the shallow, unconfined aquifer. Figure 4-2 includes analytical groundwater results for wells screened within the deep, semi-confined aquifer.

Table 4-1 includes the results of Mann-Kendall (M-K) statistical evaluations used to evaluate trends for select wells. The data obtained after the six-phase soil heating treatability study was included in the statistical evaluation. M-K analysis is used to identify whether there is a statistically significant increasing or decreasing trend in the concentration of an analyte in an individual monitoring well. The analysis uses the relative magnitudes of the values, and not the measured values, to determine a trend. This method is not adversely affected by gaps in sampling data, and allows the assignment of values to non-detects (in this case, one-half of the method detection limit was used).

Complete analytical results for all samples collected during the spring and fall 2009 monitoring events are tabulated in Appendix B2. The Data Quality Evaluation and Laboratory Data Review Checklists for the spring and fall 2009 monitoring events are in Appendices B1 and B3, respectively.

Groundwater at the PRDA site has been split into several subareas for discussion. These areas are described in the following sections.

4.1.1 Shallow, Unconfined Aquifer

The following sections provide the results for the shallow, unconfined aquifer and discuss the results according to locations of wells within or outside the hot spot.

Shallow Wells Within the Hot Spot

The hot spot has been defined in the ROD as the area of groundwater where 1,1,2,2-PCA concentrations have exceeded 1,000 micrograms per liter (µg/L). Sixteen of the 26 monitoring wells included in the monitoring program are screened within the shallow aquifer. Based on historical concentrations of 1,1,2,2-PCA, the following 6 of these 16 shallow wells have been identified as falling within the hot spot:

- AP-3981
- AP-3983
- AP-3984
- AP-3985

- AP-3989
- AP-4550

AP-4353 is also considered part of the hot spot, although it has not exceeded 1,000 μg/L for 1,1,2,2-PCA.

The historical hot-spot area is identified in Figure 4-1; all wells, including the six wells listed above, have been below the hot-spot criteria since September 2006 with the exception of AP-4550, which had a 1,1,2,2-PCA concentration of 1,100 μg/L during the fall 2007 sampling event. Furthermore, as shown in Table 4-1 and Figure 4-1, M-K analysis indicated that four of the six wells listed above continue to exhibit declining trends in concentrations of at least three COCs (most have five or more). One COC, 1,1,2,2-PCA, exhibits a declining trend in Well AP-4550, which was first sampled in October 2005. The post-treatability study data from AP-3981 do not show a statistically significant trend. The results from the M-K analysis also indicate that concentrations of five COCs show a decreasing trend in AP-4353. Declining trends in the concentrations of 1,1,2,2-PCA in Wells AP-3983, AP-3984, AP-3985, AP-3989, AP-4550, and AP-4353 are further illustrated in Figure 4-3. The 1,1,2,2-PCA concentrations in AP-3981 have been less than the RAO (5.2 ug/L) since the September 2000 sampling event.

Well AP-4353, located in the main disposal area, has not experienced a 1,1,2,2-PCA result greater than 253 μg/L; however, this well was first sampled in June 2003 (after previous remedial actions), and it is likely that the location of this well would have been part of the original hot spot. Concentrations of TCE and 1,1,2,2-PCA currently exceed the RAOs, with declining concentrations of 1,1,2,2-PCA, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, and daughter products (Table 4-1). AP-4353 is considered a hot-spot well in subsequent discussions.

Concentrations of benzene and carbon TET in each of the six wells listed above (as well as AP-4353) have been below RAOs for at least during the last 5 years.

Shallow Wells Outside the Hot Spot

The following nine wells represent locations sampled outside the hot spot and screened in the shallow zone of the site:

- AP-3744
- AP-3745
- AP-3747
- AP-3749 (upgradient)
- AP-3982
- AP-4352 (not sampled in fall 2009; the well was dry)
- AP-4354 (upgradient)
- AP-4518
- AP-4519

With the exception of low-level (less than or equal to 1 μg/L) detections of TCE in well AP-4354 and AP-4518, four of the above wells (AP-3749, AP-4352, AP-4354, and AP-4518) have not experienced detections of COCs or TBW compounds since at least August of 2004.

AP-4352 was not sampled during the fall 2009 sampling event because it was dry. Of the two upgradient wells, AP-3749 has not had a detection of individual COC or TBW compounds, and AP-4354 (located just southeast of the hot spot) has had two TCE detections of less than 1 μg/L since October 2004. The other two wells (AP-4352 and AP-4518), which have not shown significant detections since 2004, are located to the north and southeast of the hot spot, respectively. Except for TCE and 1,1,2,2-PCA concentrations of less than the RAOs reported during the fall 2009 sampling event, COCs or TBW compounds were not detected in AP-3982 since August 2004. AP-3982 is located to the northeast and downgradient of the hot-spot.

The remaining four wells (AP-3744, AP-3745, AP-3747, and AP-4519) are located downgradient of the source area. Concentrations of TCE and 1,1,2,2-PCA are above RAOs consistently for downgradient these wells, AP-3744, AP-3745, AP-3747, and AP-4519, although 1,1,2,2-PCA concentrations detected in AP-3747 during the last three sampling events are less than the RAO. Also, the 1,1,2,2-PCA concentration reported in AP-3745 during the October 2009 sampling event is less than the RAO. M-K analysis (Table 4-1) indicate that 1,1,2,2-PCA, cis-1,2-DCE, and TCE concentrations show a declining trend in AP-3744. However, increasing trends are apparent for cis-1,2-DCE and TCE concentrations in AP-3745.

Shallow Aquifer Summary

Concentrations of COCs within the hot-spot area continue to be above RAOs.

Downgradient of the hot-spot, the plume appears to be bounded by AP-4352 to the north. In Well AP-3982, northeast of the hot spot, COC's were detected for the first time since August 2004 perhaps indicating slight plume migration. The concentrations of 1,1,2,2-PCA and TCE are above RAOs in AP-3747; with 1,1,2,2-PCA and TCE holding within historical limits. The extent of the TCE plume beyond AP-3747 in the shallow aquifer to the northeast is unknown.

The 1,1,2,2-PCA concentration in downgradient well AP-3744 remains below cleanup levels.

AP-4352

Total Depth 32.999 (ft)

	Jun-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	287.43	286.12	288.22	290.22	285.66	282.42	289.67	Dry	Dry	287.66	Dry
Benzene	0.12J	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND(1)	ND(1)	NS	NS	ND(0.400)	NS
Carbon Tetrachloride	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
cis-1,2-Dichloroethene	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
trans-1,2-Dichloroethene	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
Tetrachloroethene	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
Trichloroethene	1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
1,1,2,2-Tetrachloroethane	ND	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	NS	NS	ND(0.500)	NS
Vinyl chloride	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
1,1,1-trichloroethane	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
1,1,2-Trichloroethane	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
1,1-Dichloroethene	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	NS	NS	ND(1.00)	NS
1,2-Dichloroethene	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	NS	NS	ND(0.500)	NS

HISTORICAL HOT SPOT WELLS

AP-3989

Total Depth 36.299 (ft)

	Nov-96	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	May-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	280.61	282.91	284.05	283.53	281.33	281.79	281.20	283.66	NA	278.08	NA	279.49	NA	278.38	280.90	278.77	281.32	280.54	279.89	279.04	279.48	278.84	278.35	278.25
Benzene	ND	22	2	3	2	ND	NS	NS	NS	ND	2J	2.30	2.30	ND (6.4)	2.29	1.47	1.64	1.58	1.20	1.6	1.3	1.43	1.26	1.19
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	NS	NS	NS	ND	ND	ND (0.43)	ND (2.5)	ND (8.6)	0.32J	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(50.0)
cis-1,2-Dichloroethene	170	1,100	97	250	160	98	NS	NS	NS	160	200	170	200	160	164	147	119	122	120 J-	140	110	102	93.0	99.0
trans-1,2-Dichloroethene	ND	1,100	31	65	60	28	NS	NS	NS	42.0	48.0	59.0	48.0	34J	46.2	35.7J-	49.1	40.4	37.0	45	31	27.9	31.9	31.7
Tetrachloroethene	ND	73	10	10	13	5	NS	NS	NS	5.5J	8.8	7.7	7.6	ND (8.0)	8.65	6.35	5.44	4.56	4.50	5	4	4.20	3.83	ND(50.0)
Trichloroethene	940	5,400	930	1,300	740	680	NS	NS	NS	900	870	920	1,200	900	1,050	958	976	805	810 J-	920	600	557	534	611
1,1,2,2-Tetrachloroethane	1,400	1,900	1,000	3,300	1,800	830	NS	NS	NS	650	560	550	950	690	342	297	521	325	200 J-	200	200	183	158	161
Vinyl chloride	NA	NA	ND(1)	ND(100)	ND (1)	ND (1)	NS	NS	NS	ND (3.1)	ND (0.31)	ND (0.53)	ND (2.5)	ND (11)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,1-Trichloroethane										ND	ND	ND (0.61)	ND (2.5)	ND (12)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2-Trichloroethane										9.5J	13	15J	15	ND (8.2)	9.83	9.18	9.18	8.51	6.00	7	6	6.72	6.69	6.61
1,1-Dichloroethene										ND	2.80	3.00	2.60	ND (11)	2.75	2.43	ND (1.0)	1.67	1.9 J+	2J+	1.40	2.09	ND(1.00)	1.45
1,2-Dichloroethene										ND	ND	ND (0.37)	ND (2.5)	ND (7.4)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)

AP-3983

Total Depth 30.499 (ft)

	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	282.64	283.89	283.59	280.90	281.95	280.77	283.59	281.23	277.82	NA	280.08	278.80	279.85	280.05	281.69	280.94	280.99	280.09	280.76	280.18	279.43	279.26	279.26	
Benzene	94	21	21	33	12	17	6.1	5.3	ND	1.6J	ND (1.6)	1.5J	1.93	0.86	1.53	1.49	ND(1)	1.2	1.5	ND(0.4)	0.47	0.710		
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (2.1)	ND (0.43)	0.6J	ND (1.0)	ND (1.0)	ND (1.0)	1.3	ND(1)	0.43J	ND(1)	ND(1.00)	ND(1.00)		
cis-1,2-Dichloroethene	5,100	1,500	2,200	2400	2500	3100	1400	1200	530	1100	350	680	523	485	348	306	23	320	320	247	211	366		
trans-1,2-Dichloroethene	5,100	470	720	1100	480	510	220	180	34	89	41	110	172	86.5	62.6	55	4.2	100	85	42.0	52.9	ND(100)		
Tetrachloroethene	390	170	140	160	120	130	58	54	ND	13	4.1J	9.1	45.5	14.6	14.8	16.1	6.3	33	26	11.3	24.0	ND(100)		
Trichloroethene	22,000	12,000	11,000	12,000	9,100	11,000	3,100	2,800	120	1,400	320	470	3,160	1,110	965	933	360	2,100	2,200	552	1,540	2,320		
1,1,2,2-Tetrachloroethane	52,000	24,000	3,800	26,000	15,000	16,000	3,500	3,400	280	1,400	470J	840	1,410	560	434	438	73	720	930	240	517	727		
Vinyl chloride	NA	ND(1)	9	2	4	5	2.8	4.7	18J	18	7.6J	20	2.65	3.93	2.61	3.73	ND(1)	0.54J	0.98J	6.84J+	ND(1.00)	0.410J		
1,1,1-Trichloroethane									ND	32	ND (3)	ND (0.61)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)		
1,1,2-Trichloroethane									18J	ND	22	45	33.1	22	13.1	13.8	1.1	19	22	13.1	16.5	22.3		
1,1-Dichloroethene									ND	4.5	ND (1.6)	7.3	8.72	5.12	3.18	4.14	0.57 J+	7.3J+	5.3	2.88	ND(1.00)	5.23		
1,2-Dichloroethene									ND	2.7	2.3J	6.1	3.19	2.56	ND (0.50)	ND (0.50)	ND(1)	1.2J+	0.98J	1.52	0.810	0.840		

AP-3984

Total Depth 32.500 (ft)

	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	284.91	284.19	285.07	283.17	283.37	282.61	284.61	282.55	278.64	281.23	282.91	281.23	283.00	285.42	284.58	283.56	282.94	282.97	282.32	281.63	281.53			
Benzene	9	4	17	ND	ND	4	2	1.9	0.49J	0.77J	0.15J	ND (1.0)	1.58	0.41	0.37QJ	1.60	ND(1)	ND(1)	ND(0.4)	0.210J	ND(0.400)			
Carbon tetrachloride	11	10	5	ND	3.70	7	5	ND	3.40	2.40	0.41	ND (2.1)	1.20	1.16	1.18	ND(1)	0.89J	1.40	1.93	1.49	2.03			
cis-1,2-Dichloroethene	730	160	730	180	58	160	79	260	41	54	17	44	78.3	19.1	16.8	110.0	29.0	17.0	35.8	23.5	8.90			
trans-1,2-Dichloroethene	730	48	190	60	15	44	20	22	9	12	3.4	5.0J	21.90	3.13	2.72	21.00	7.2	3.6	12.9	6.13	2.46			
Tetrachloroethene	300	84	150	62	29	95	60	16	5.5	28	7.40	3.5J	12.4	4.19	2.57	5.90	6.9	5.4	18.6	15.5	6.63			
Trichloroethene	8,700	2,100	7,800	1,700	1,600	4,600	2,300	260	620	760	790	360	554	228	180	350	350	960	869	616	248			
1,1,2,2-Tetrachloroethane	11,000	3,700	15,000	2,800	810	1,100	920	260	80	180	240J	81J	1,520	34	24	110	53	49	157	173	68.0			
Vinyl chloride	ND	ND(1)	ND(1)	ND (10)	ND (1)	ND (1)	ND (0.3)	2.2	ND (0.31)	ND (0.31)	ND (0.11)	ND (2.7)	0.42J	ND (1.0)	ND (1.0)	2.60	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)			
1,1,1-Trichloroethane									ND	ND	ND (0.12)	ND (3)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)			
1,1,2-Trichloroethane									1.7J	3.0	0.92	ND (2.1)	3.17	0.620J	0.620J	5.10	ND(1)	0.84J	1.54	1.05	0.530J			
1,1-Dichloroethene									1.6J	0.94J	0.3J	ND (2.7)	1.09	0.440J	0.420J	1.5J+	0.81J	0.65J	1.29	ND(1.00)	0.390J			
1,2-Dichloroethene									ND	ND	ND (0.074)	ND (1.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)			

AP-4550

Total Depth 42.999 (ft)

	Oct-05	Sep-06	Jun-07	Oct-07	Feb-09	Jun-09	Oct-09
GW Elevation (ft):	278.64	281.05	281.37	281.49	280.81	280.22	280.05
Benzene	1.46	1.7	0.7J	1.7	ND(0.4)	1.29	1.47
Carbon Tetrachloride	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	289	320	210	380	287	302	302
trans-1,2-Dichloroethene	94.4	130	51	110	87.6	91.8	102
Tetrachloroethene	36.8	42	10	36	37.6	38.8	41.5
Trichloroethene	2,090	2,100	1,000	2,700	1,970	2,210	2,260
1,1,2,2-Tetrachloroethane	1,110	990	330	1,100	957	598	618
Vinyl chloride	0.600J	1.2 J+	ND(1)	0.57J	0.940J+	0.770J	ND(1.00)
1,1,1-Trichloroethane	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2-Trichloroethane	19.5	21	13	21	17.9	16.3	16.8
1,1-Dichloroethene	6.13	10 J+	6.6J+	6.9	7.12	ND(1.00)	8.33
1,2-Dichloroethene	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)

AP-3985

Total Depth 37.300 (ft)

	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	282.43	282.81	284.25	285.24	283.73	286.58	284.02	280.45	NA	282.41 (0.086)	280.54	282.15	282.81	285.42	284.28	283.61	282.97	282.77	281.79	281.17	280.94
Benzene	1	2	ND	ND	ND	0.3J	ND	ND	ND	ND (0.064)	ND (1.6)	ND (0.4)	0.22J	ND (0.4)	ND (0.4)	ND(1)	ND(1)	ND(1)	ND(0.4)	ND(0.400)	ND(0.400)
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.086)	ND (2.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(20.0)
cis-1,2-Dichloroethene	140	150	230	300	1,400	280	92	160	59.00	9.60	48.00	49.40	65.1	27.6	35.6	28.0	31	30	29.6	35.0	39.6
trans-1,2-Dichloroethene	53.00	58.00	94.00	36.00	70.00	29.00	12.00	51.00	12.00	2.10	6.4J	12.5	10.7	6.04	8.06	7.30	8.2	7.5	5.45	6.96	8.46			
Tetrachloroethene	52.0	86.0	72.0	10.0	7.0	15.0	5.2	13.0	6.8	1.4	3.0J	7.84	6.66	5.65	8.86	6.60	6.4	5.7	8.26	7.22	ND(20.0)			
Trichloroethene	2,200	3,200	3,100	970	1,700	680	440	370	210	220	340	388.0	467	239	464	340	250	430J	318	353	424			
1,1,2,2-Tetrachloroethane	17,000	18,000	17,000	100	320	420	340	81	96	17J	120J	78.8	102	53.60	77.0	45.0	27	52	61.3	42.4	61.3			
Vinyl chloride	ND(1)	ND(1)	ND (10)	3.00	5.00	1.70	ND (1)	ND (0.31)	ND (0.31)	ND (0.11)	ND (2.7)	0.45J	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	0.420J+	ND(1.00)	ND(1.00)			
1,1,1-trichloroethane								ND	ND	ND (0.12)	ND(3)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
1,1,2-Trichloroethane								6.9	2.7	0.38J	3.7J	2.44	2.60	1.64	2.48	1.50	ND(1)	1.7	1.52	2.10	2.75			
1,1-Dichloroethene								2.9	2.6	0.67	ND (2.7)	4.40	4.10	2.13	2.70	2.7 J+	2.3J+	2.4	2.71	ND(1.00)	3.56			
1,2-Dichloroethene								ND	ND	ND (0.074)	ND (1.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)			

AP-3981

Total Depth 40.699 (ft)

	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	272.54	272.01	273.23	283.82	285.04	284.02	286.78	284.12	278.12	280.84	277.26	276.34	282.32	285.37	284.25	283.32	282.85	282.77	281.86	281.13	281.00			
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.32)	ND (0.32)	ND (0.4)	ND (0.4)	ND (0.4)	ND(1)	ND(1)	ND(1)	ND(0.4)	ND(0.400)	ND(0.400)			
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.43)	ND (0.43)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
cis-1,2-Dichloroethene	76	14	11	14.0	10.0	4.0	1.4	ND	ND	ND	ND (0.47)	ND (0.47)	ND (1.0)	0.470 J	0.470 J	1.9	1.3	ND(1)	1.82	0.980J	ND(1.00)			
trans-1,2-Dichloroethene	70	6	5	6.0	1.3	ND	ND	ND	ND	ND	ND (0.61)	ND (0.61)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	0.420J	ND(1.00)	ND(1.00)			
Tetrachloroethene	18	2	5	7	ND	ND	ND	ND	ND	ND	ND (0.45)	ND (0.45)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	0.330J	ND(1.00)	ND(1.00)			
Trichloroethene	950	110	170	280	21	16	1.3	0.8	0.45J	5.3	1.5J	ND (0.55)	1.5	1.51	0.780J	16.0	9.8	0.97J	13.4	7.30	0.850J			
1,1,2,2-Tetrachloroethane	1400	340	630	690	850	40	0.3	ND	ND	1.7J	ND (0.48)	ND (0.48)	1.0	ND (0.5)	ND (0.5)	3.7	2.5	ND(1)	2.97	1.57	ND(0.500)			
Vinyl chloride	NA	ND(1)	ND(1)	ND (1)	ND (1)	ND (1)	ND (0.3)	ND (0.5)	ND (0.31)	ND (0.31)	ND (0.53)	ND (0.53)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
1,1,1-trichloroethane									ND	ND	ND (0.61)	ND (0.61)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
1,1,2-Trichloroethane									ND	ND	ND (0.41)	ND (0.41)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
1,1-Dichloroethene									ND	ND	ND (0.53)	ND (0.53)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)			
1,2-Dichloroethene									ND	ND	ND (0.37)	ND (0.37)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)			

AP-3749

Total Depth 24.000 (ft)

	Oct-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	284.87	291.63	291.09	291.87	290.67	289.50	289.57	289.80
Benzene	NS	ND (0.4)	ND(1)	ND(1)	ND(0.4)	ND(0.400)	ND(0.400)	ND(0.400)
Carbon Tetrachloride	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
trans-1,2-Dichloroethene	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
Tetrachloroethene	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
Trichloroethene	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2,2-Tetrachloroethane	NS	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)
Vinyl chloride	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,1-trichloroethane	NS	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2-Trichloroethane		ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1-Dichloroethene		ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,2-Dichloroethene		ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)

AP-4354

Total Depth 13.999 (ft)

	Jun-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	295.00	291.67	297.18	296.92	295.05	296.20	297.58	295.06	291.93	295.73	291.76
Benzene	0.18J	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND(1)	ND(1)	ND(1)	ND(0.4)	ND(0.400)	ND(0.400)
Carbon Tetrachloride	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	1.20	0.73J	0.42J	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
trans-1,2-Dichloroethene	0.34	0.32J	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
Tetrachloroethene	0.17J	0.67J	0.44J	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
Trichloroethene	9.70	1.45	0.59J	ND (1.0)	0.500J	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	0.590J
1,1,2,2-Tetrachloroethane	1.90	2.69	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)
Vinyl chloride	ND	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,1-Trichloroethane	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2-Trichloroethane	ND (0.5)	0.67J	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1-Dichloroethene	ND (0.5)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,2-Dichloroethene	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)

AP-3747

Total Depth 32.201 (ft)

	Oct-95	Nov-96	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	279.53	272.67	279.30	282.28	279.76	277.10	278.41	277.20	280.12	277.23	NA	275.52	275.95 (0.064)	274.81	278.97	276.41	280.68	278.74	277.57	277.29	277.21	276.44	275.85	275.49
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.064)	ND (1.6)	ND (0.4)	ND (0.4)	ND (0.4)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.400)
Carbon Tetrachloride	1.4	NS	NS	ND	ND	3	3	4	1	3.2	NS	1.1J	0.22J	2	0.71J	0.98J	0.560J	0.540J	1.1	0.82J	1.3	1.54	ND(1.00)	ND(1.00)
cis-1,2-Dichloroethene	15	NS	28	8	17	34	40	54	16	44	NS	26	3.9	34	17.5	24	6.5	10.1J-	21	16	23	28.3	25.9	41.4
trans-1,2-Dichloroethene	4.1	NS	28	2	4	10	9.3	15	4.6	13	NS	7.2	1.2	9.7	5.01	6.22	1.78	3.07J-	6.4	4.9	7	8.57	8.22	13.2
Tetrachloroethene	2.1	NS	2	1	3	6	6	9	2.8	7.8	NS	3.9	0.5	3.4	2.57	3.22	1.01	1.75J-	3.1	2.2	3.2	5.22	4.83	7.74
Trichloroethene	270	NS	320	140	260	730	870	1,200	250	860	NS	310	160	460	267	355	96.7	151J-	350 J-	250	960	508	472	683
1,1,2,2-Tetrachloroethane	6.3	NS	4	2	4	12	13	27	5.7	31	NS	7.6	0.52J	8.9	1.62	2.66	1.06	1.06	2.5	2.5	8.5	13.6	9.1	10.6
Vinyl chloride	NA	NS	NA	ND(1)	ND(1)	ND (1)	ND (1)	ND (1)	ND(0.3)	ND (0.5)	NS	ND (0.31)	ND (0.11)	ND (2.7)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)
1,1,1-Trichloroethane											NS	ND (0.12)	ND (3)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1.00)	ND(1.00)
1,1,2-Trichloroethane											NS	3.1	0.45	4.4	1.83	2.1	0.500J	0.760J-	1.6	1.4	2.2	2.72	2.65	3.77
1,1-Dichloroethene											NS	0.55J	0.19J (0.074)	3	0.9J	ND (1.0)	ND (1.0)	0.440J-	1.4 J+	0.89J+	1.3	1.86	ND(1.00)	2.19
1,2-Dichloroethene											NS	ND	ND (1.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(0.500)	ND(0.500)

AP-3744

Total Depth 37.598 (ft)

	Oct-95	Nov-96	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	280.51	276.71	279.59	281.36	280.35	279.66	280.15	270.93	273.46	271.19	274.90	277.23	NA	276.08	280.90	280.08	279.35	278.94	278.88	278.31	277.92	279.17		
Benzene	ND	ND	ND	ND	ND	ND	ND

Figure 4-1 back

AP-4350

Total Depth 188,599 (ft)	Jun-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	162,60	157,48	157,61	160,70	161,71	160,57	160,48	160,68	160,73	159,61	159,51
Benzene	ND	ND (0,4)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon Tetrachloride	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
trans-1,2-Dichloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	0,41J	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	0,15J	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2,2-Tetrachloroethane	ND	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)	ND(0,500)
Vinyl chloride	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-4345

Total Depth 186,499 (ft)	Jun-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	167,32	163,61	163,16	165,52	166,53	165,26	165,12	165,38	165,55	164,24	164,27
Benzene	0,15J	ND (0,4)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon Tetrachloride	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
trans-1,2-Dichloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	0,39J	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2,2-Tetrachloroethane	ND	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)	ND(0,500)
Vinyl chloride	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-5246

Total Depth 161,000 (ft)	Jul-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft)	163,05	163,13	163,32	162,01	162,01
Benzene	ND (1)	ND (1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon Tetrachloride	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND (1)	0,39J	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND(0,5)	ND(0,500)	ND(0,500)
Vinyl chloride	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-Trichloroethane	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene	ND (1)	ND (1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene	ND (1)	ND (1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-4344

Total Depth 163,500 (ft)	Jun-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	165,45	161,84	162,04	163,54	164,47	163,31	163,19	163,41	163,61	162,34	162,30
Benzene	0,63	ND (0,4)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon Tetrachloride	0,49J	0,61J	0,58J	0,630J	0,660J-	ND(1)	ND(1)	0,43J	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	0,51	0,54J	0,48J	0,520J	0,910J-	ND(1)	ND(1)	0,48J	ND(1)	0,410J	0,340J
trans-1,2-Dichloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	0,35J	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	**13.0**	**16.8**	**16.1**	**18.2**	**26.6J-**	**14**	**15**	**13**	**12.3**	**10.3**	**11.2**
1,1,2,2-Tetrachloroethane	0,22J	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)
Vinyl chloride	ND	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene	ND (0,5)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-3748

Total Depth 171,601 (ft)	Oct-95	Nov-96	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	168,96	166,60	166,08	166,63	168,83	169,91	168,96	168,67	170,28	169,62	162,96	163,02	164,37	163,78	164,83	164,99	166,57	167,58	51,08	166,14	166,43	166,53	165,35	165,39
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,32)	ND (0,32)	ND (0,4)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,43)	ND (0,43)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,47)	ND (0,47)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,61)	ND (0,61)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,45)	ND (0,45)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	0,35J	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	3,1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,55)	ND (0,55)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,48)	ND (0,48)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)
Vinyl chloride	NA	NA	NA	ND(1)	ND(1)	ND (1)	ND (1)	ND (1)	ND (0,3)	ND (0,5)	ND	ND	ND (0,53)	ND (0,53)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane											ND	ND	ND (0,61)	ND (0,61)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane											ND	ND	ND (0,41)	ND (0,41)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene											ND	ND	ND (0,53)	ND (0,53)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene											ND	ND	ND (0,37)	ND (0,37)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-4019

Total Depth 153,100 (ft)	Oct-95	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Oct-04	Jun-05	Oct-05	Oct-06	Jun-07	Oct-07	Jan-09	May-09	Oct-09
GW Elevation (ft):	-	-	164,86	167,09	166,76	165,78	165,52	167,32	166,40	162,63	162,57	164,17	163,42	163,25	164,99	165,06	164,87	164,49	164,76	164,89	163,68	162,30
Benzene	0,73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,32)	ND (0,32)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	ND(0,400)
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,43)	ND (0,43)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,47)	ND (0,47)	0,36J	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,61)	ND (0,61)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,45)	ND (0,45)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	0,31J	ND(1)	ND(1)	ND(1,00)
Trichloroethene	0,91	ND	ND	ND	ND	ND	ND	0,2J	ND	ND	0,65J	ND (0,55)	ND (0,55)	0,41J	ND (1,0)	**8.02**	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	0,360J
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,48)	ND (0,48)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)
Vinyl chloride			ND(10)	ND(1)	ND (1)	ND (1)	ND (1)	ND (0,3)	ND (0,5)	ND	ND	ND (0,53)	ND (0,53)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane											ND	ND	ND (0,61)	ND (0,61)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane											ND	ND	ND (0,41)	ND (0,41)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene											ND	ND	ND (0,53)	ND (0,53)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene											ND	ND	ND (0,37)	ND (0,37)	ND (1,0)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-4525

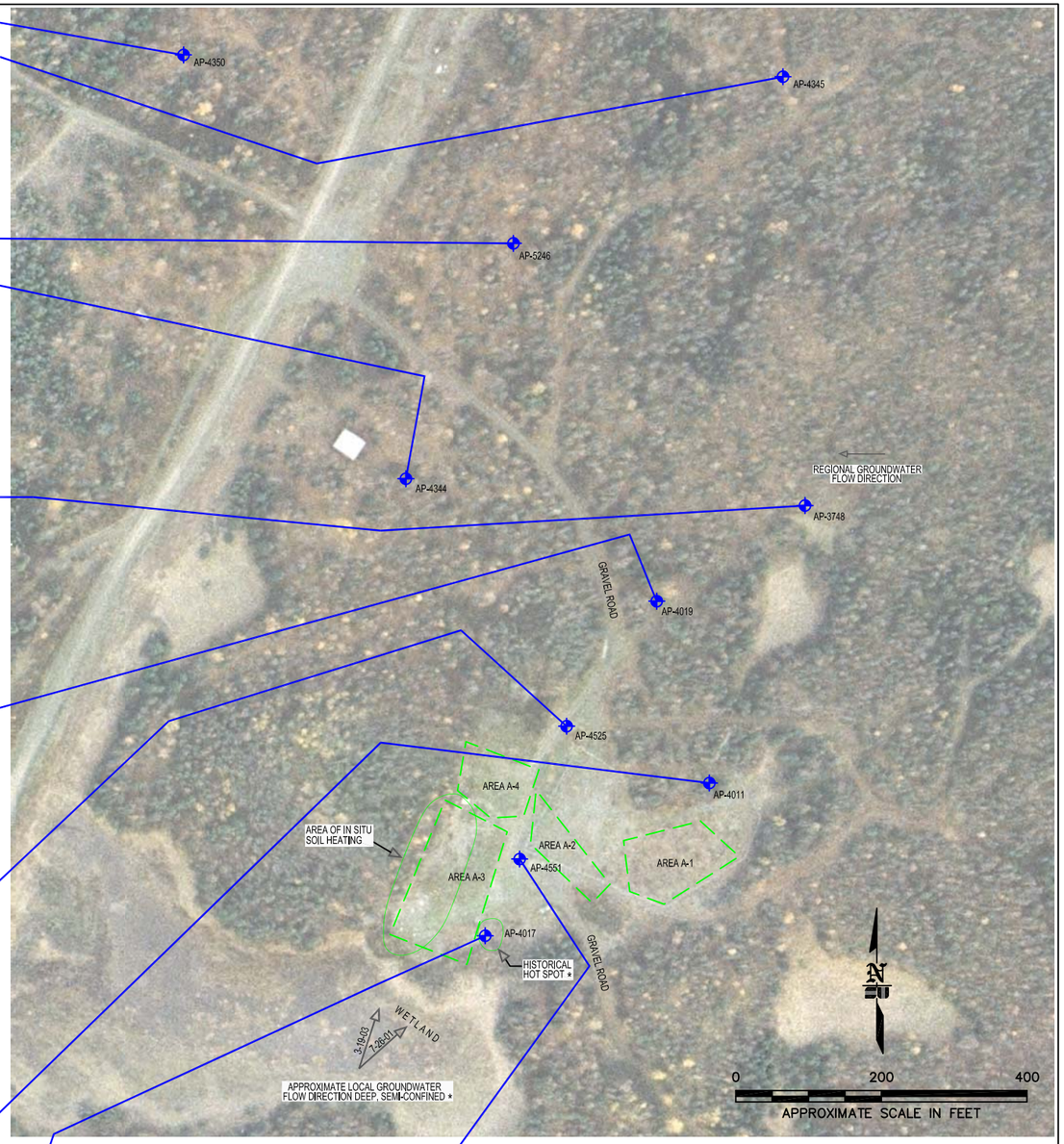
Total Depth 127,202 (ft)	Aug-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	186,88	179,89	180,08	180,07	179,84	179,81	179,75	179,79	179,79
Benzene	0,69	0,54	ND (0,4)	ND(1)	0,58 J	ND(1)	NS	ND(0,400)	0,240J
Carbon tetrachloride	**13.9**	**7.6**	0,660J	3,2	ND (1)	0,92J	NS	2,16	ND(20,0)
cis-1,2-Dichloroethene	**384**	**387**	67,70	**340**	**81**	**140**	NS	**192**	**199**
trans-1,2-Dichloroethene	75,4	70,5	10,2	46,0	9,0	18,0	NS	33,8	36,5
Tetrachloroethene	**24.4**	**27.1**	**5.62**	**14**	2,7	5,1	NS	**11.4**	ND(20,0)
Trichloroethene	**5,720**	**4,530**	**865**	**3,500**	**600**	**1,800**	NS	**2,060**	**2,270**
1,1,2,2-Tetrachloroethane	**453**	**883**	**386**	**370**	**120**	**180**	NS	**82.0**	**108**
1,1-Dichloroethene	**9.04**	**9.94**	ND (1.0)	6,1 J+	ND (1.0)	1,50	NS	ND(1,00)	4,86
1,1,2-Trichloroethane	**34.5**	**29.2**	**13.9**	**25.0**	**12**	**17**	NS	**14.7**	**15.6**

AP-4011

Total Depth 138,799 (ft)	Oct-95	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	180,05	180,15	180,12	179,89	181,50	181,66	181,33	181,07	181,30	178,18	178,54	178,48	178,61	179,86	179,79	179,72	179,46	179,91	179,86	179,78	179,79	179,82	179,49
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,64)	ND (0,32)	ND (0,4)	ND (0,4)	ND (0,4)	ND (0,4)	ND(1)	ND(1)	ND(1)	ND(0,4)	ND(0,400)	1,72J+
Carbon Tetrachloride	ND	ND	1	ND	ND	1	1	1,2	0,85	0,67J	0,79J	0,11J	ND (0,43)	0,52J	0,58J	0,640 J	0,640 J	0,55 J	ND(1)	0,63J	ND(1)	0,440J	ND(1,00)
cis-1,2-Dichloroethene	5,3	ND	5	6	4	4,1	4	6	4,8	3,3	4,8	0,8	3,9J	3,73	3,3	3,25	2,49	3	3,1	2,7	2,52	2,41	2,52
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	0,56	ND	ND	0,71J	ND (0,12)	ND (0,61)	0,38J	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0,09)	ND (0,45)	0,4J	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
Trichloroethene	**43**	**30**	**34**	**29**	**35**	**34**	**38**	**38**	**37**	**27**	**35**	**5.8**	**23J**	**24.2**	**24.9**	**24.8**	**18.2**	**19**	**17**	**17**	**16.9**	**15.8**	**15.5**
1,1,2,2-Tetrachloroethane	**82**	**47**	**54**	**29**	**18**	**47**	**71**	**33**	**18**	**12**	**8,8**	2,1	**10J**	3,39	3,56	2,7	ND (0,5)	1,3	1,3	1,2	0,78	1,05	0,590
Vinyl chloride	NA	NA	ND(1)	ND(1)	ND (1)	ND (1)	ND (1)	ND (0,3)	ND (0,5)	ND (0,31)	ND (0,31)	ND (0,11)	ND (0,53)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,1-trichloroethane										ND	ND	ND (0,12)	ND (0,61)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane										ND	0,51J	ND (0,082)	0,58J	0,32J	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1-Dichloroethene										ND	ND	ND (0,11)	ND (0,53)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,2-Dichloroethene										ND	ND	ND(0,074)	ND (0,37)	ND (0,5)	ND (0,5)	ND (0,5)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)

AP-4017

Total Depth 98,199 (ft)	Oct-95	Nov-97	Jun-98	Oct-98	Mar-99	Oct-99	Apr-00	Oct-00	Apr-01	Mar-02	Sep-02	Mar-03	Sep-03	Aug-04	Oct-04	Jun-05	Oct-05	Sep-06	Jun-07	Oct-07	Feb-09	Jun-09	Oct-09
GW Elevation (ft):	232,18	233,33	233,66	233,89	234,22	235,10	235,17	235,53	235,60	232,81	233,69	238,55	237,37	241,90	241,44	242,03	240,81	240,64	240,70	241,00	241,08	240,78	240,06
Benzene	ND	ND	ND	ND	ND	ND	ND	0,3J	ND	ND	0,53J	ND (3,2)	ND (3,2)	1,01	0,92	ND (0,4)	0,43	ND(1)	0,54 J	ND(1)	ND(0,4)	0,380J	0,370J
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (4,3)	ND (4,3)	ND (1,0)	ND (1,0)	ND (1,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
cis-1,2-Dichloroethene	**280**	ND	**300**	**310**	**380**	**290**	**180**	**260**	**390**	**320**	**300**	**330**	**360**	**217**	**416**	**357**	**427**	**460**	**370**	**490**	**358**	**328**	**304**
trans-1,2-Dichloroethene	58	ND	82	74	75	59	49	56	**100**	**110**	**120**	**100**	83	21,2	**142**	**113**	**142**	**140**	**120**	**130**	**117**	97,8	91,0
Tetrachloroethene	ND	4	**5**	3	4	2	2	2,1	ND	4,2	3,9	ND (2,5)	ND (4,5)	2,4	2,44	2,90J	2,73	1,4	1,2	1,5	1,48	1,34	1,55
Trichloroethene	**1,000**	**1,300**	**920**	**850**	**1,100**	**860**	**660**	**730**	**1,300**	**810**	**1,000**	**1,000**	**1,100**	**902**	**1,430**	**1,300**	**1,530**	**1,500**	**1,200**	**1,800**	**1,240**	**1,170**	**884**
1,1,2,2-Tetrachloroethane	**3,100**	**1,500**	**1,800**	**1,500**	**950**	**1,500**	**690**	**1,000**	**1,200**	**700**	**780**	**690J**	**890J**	**483**	**526**	**481**	**458**	**370**	**280**	**420**	**250**	**204**	**206**
Vinyl chloride			ND(1)	ND(1)	ND (1)	ND (1)	ND (1)	0,089	ND (5)	**2,7**	**2,7**	ND (5,3)	ND (5,3)	0,7J	**2,54**	**2,00J**	**3,18**	**4 J+**	**2,5**	**2,3**	**5,5J+**	3,28	ND(50,0)
1,1,1-trichloroethane										ND	ND	ND (6,1)	ND (6,1)	ND (1,0)	ND (1,0)	ND (5,0)	ND (1,0)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1,00)	ND(1,00)
1,1,2-Trichloroethane										**21**	**25**	**23**	**31**	**18.7**	**25.7**	**23**	**25.9**	**18**	**16**	**20**	**18.0**	**16.2**	**16.8**
1,1-Dichloroethene										**12**	**11**	**9J**	ND (5,3)	**8,02**	**11,2**	**10,5**	**13,8**	**14 J+**	**11 J+**	**11**	**14,1**	ND(1,00)	13,2
1,2-Dichloroethene										ND	ND	ND (3,7)	ND (3,7)	ND (0,5)	ND (0,5)	ND (2,50)	ND (0,5)	ND(1)	ND(1)	ND(1)	ND(0,5)	ND(0,500)	ND(0,500)



NOTES *

Groundwater elevation datum mean sea level (NAVD 88) In meters.
Previous groundwater elevations taken from archived reports.
Data from March 1999 to April 2001 collected by URS Corporation (URS, 2001)
Data from March 2002 to April 2003 and from September 2006 to 2007 collected by CH2M HILL
2009 data collected by Shannon & Wilson
All non-detect values before August 2004 are reported as the Method Detection Limit (MDL)
2004 August and October non-detect values are reported as the Practical Quantitation Limit (PQL)
All concentrations are measured in µg/L
Exceedances compared against RAO or MCL
Regulatory Exceedances of RAO's or MCL's In Blue
Historical maximun concentrations/elevations are indicated by a box
Approximate Groundwater flow directions were obtained from Hydrogeology of the Poleline Road Disposal Area, (CRREL, 2003).
Hot Spot has been defined In the OUB ROD as the Area of Groundwater where 1,1,2,2-PCA concentrations exceed 1,000 µg/L.

ABBREVIATIONS:

ADEC = Alaska Department of Environmental Conservation
J = Estimated Quantity
J+ = Analyte is present, but value may not be accurate or precise (estimated high)
J- = Analyte is present, but value may not be accurate or precise (estimated low)
MCL = Maximum Contaminant Level
NA = Not Available
ND = No Analyte Detected
NS = Not sampled
RAO = Remedial Action Objectives
ROD = Record of Decision

AP-4551

Total Depth 97,999 (ft)	Oct-05	Sep-06	Jun-07	Oct-07	Jan-09	Jun-09	Oct-09
GW Elevation (ft):	210,92	210,98	211,18	211,11	210,98	211,09	210,83
Benzene	0,290J	ND(1)	0,67 J	ND(1)	NS	ND(0,400)	0,270J
cis-1,2-Dichloroethene	**85,5**	**150**	**180**	**180**	NS	**106**	**139**
trans-1,2-Dichloroethene	9,97	18	12	11	NS	7,96	10,2
Tetrachloroethene	2,52	4,2	1,9	2,9	NS	3,24	3,03
Trichloroethene	**1,610**	**2,300**	**1,900**	**3,000**	NS	**2,040**	**1,810**
1,1,2,2-Tetrachloroethane	**90.5**	**130**	**120**	**130**	NS	**65,6**	**101**
1,1,2-Trichloroethane	**8.27**	**12**	**9.8**	**11**	NS	**7.42**	**7.36**
1,1-Dichloroethene	**7.4**	**15 J+**	**11 J+**	**12**	NS	ND(1,00)	**7.57**

Cleanup Level Values

Chemical of Concern (COC)	ROD RAO
Benzene	5 µg/L
Carbon Tetrachloride	5 µg/L
cis-1,2-Dichloroethene	70 µg/L
Tetrachloroethene	5 µg/L
trans-1,2-Dichloroethene	100 µg/L
Trichloroethene	5 µg/L
1,1,2,2-Tetrachloroethane	5,2 µg/L
Post ROD COC	**ADEC MCL**
Vinyl chloride	2 µg/L
1,1,1-Trichloroethane	200 µg/L
1,1,2-Trichloroethane	5 µg/L
1,1-Dichloroethene	7 µg/L
1,2-Dichloroethene	5 µg/L

LEGEND

- Monitoring Well Location
- ND Maximum Historic Concentrations
- End of Six Phase Soil Heating Treatability Study (October 31, 1999)

OUB POLELINE ROAD DISPOSAL AREA, SPRING AND FALL 2009
DEEP, SEMI-CONFINED AQUIFER
FORT RICHARDSON, ALASKA

GROUNDWATER MONITORING LOCATIONS AND RESULTS

DECEMBER 2010 — 32-1-17261-721

SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

FIG. 4-2

Figure 4-2 back

TABLE 4-1
Mann-Kendall Concentration Trends for Select Wells

Well	Benzene[a]	Carbon Tetrachloride[a]	1,1,2,2-PCA[a]	cis-1,2-DCE[a]	trans-1,2-DCE[a]	PCE[a]	TCE[a]	Vinyl Chloride	1,1-DCE	1,1,2-TCA
Hot Spot -- Shallow										
AP-3981	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
AP-3983	Declining (99.6)	NA	Declining (98.2)	Declining (100)	Declining (99.1)	NA	NA	Declining (99.6)	NA	NA
AP-3984	Declining (99.7)	NA	Declining (97.4)	Declining (99.4)	Declining (98.6)	Declining (98.4)	Declining (91.2)	NA	NA	NA
AP-3985	NA	NA	Declining (99.8)	Declining (99.5)	Declining (99.7)	NA	NA	NA	NA	NA
AP-3989	Declining (98.8)	NA	Declining (100)	Declining (100)	Declining (99.5)	Declining (98.8)	Declining (99.4)	NA	NA	Declining (99.7)
AP-4550	NA	NA	Declining (93.2)	NA	NA	NA	NA	NA	NA	NA
AP-4353[b]	NA	NA	Declining (100)	Declining (100)	Declining (99.9)	Declining (99.2)	Declining (98.3)	NA	Declining (99.3)	Declining (100)
Downgradient -- Shallow										
AP-3744	NA	NA	Declining (100)	Declining (99.8)	NA	NA	Declining (95.8)	NA	NA	NA
AP-3745	NA	NA	NA	**Increasing (94.1)**	NA	NA	**Increasing (98.5)**	NA	NA	NA
AP-4519	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hot Spot -- Deep										
AP-4017	NA	NA	Declining (100)	**Increasing (95.4)**	**Increasing (99.0)**	NA	**Increasing (97.8)**	**Increasing (98.9)**	NA	NA
Downgradient -- Deep										
AP-4011	NA	NA	Declining (100)	Declining (100)	NA	NA	Declining (100)	NA	NA	NA
AP-4525	NA	NA	Declining (99.7)	NA	NA	NA	NA	NA	NA	Declining (91.1)

Notes:
1. Wells included in this table show at least one significant trend (according to Mann-Kendall analysis) for the included analytes. The remaining wells are either free of contamination, or do not have any significant trends.
2. The use of a seasonal Mann-Kendall analysis was considered; however, the lack of consistent seasonal sampling from year to year, in combination with minimal water level fluctuation between sampling events, appears to make seasonal analysis unnecessary
3. Trends are considered significant at greater than 90 percent probability

Declining (99.6) = declining concentration trend with 99.6 percent probability

Increasing (94.1) = increasing concentration trend with 94.1 percent probability

[a]Contaminant of concern

[b]Well AP-4353 has never exceeded 1,000 micrograms per liter (the definition of the "hot spot") but is considered with hot spot wells because it likely would have met the criteria if sampling had occurred at this location prior to the remedial actions.

1,1,2,2-PCA = 1,1,2,2-tetrachloroethane
cis-1,2-DCE = cis-1,2-dichloroethylene
NA = no significant trend
PCE = tetrachloroethylene
TCE = trichloroethylene
trans-1,2-DCE = trans-1,2-dichloroethylene

Table 4-1 back

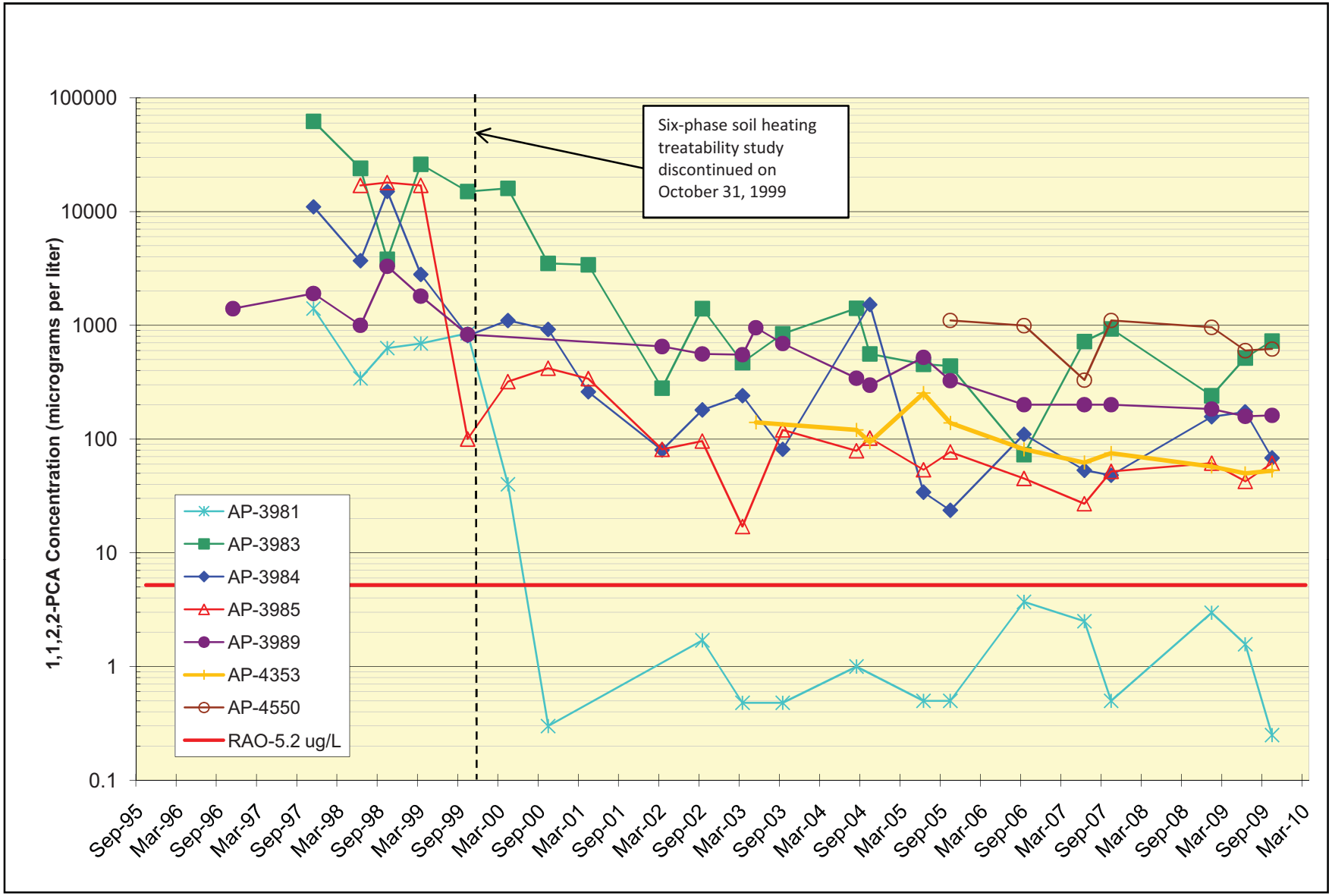


FIGURE 4-3
1,1,2,2-PCA Concentrations vs. Time
OUB Poleline Road Disposal Area
Fort Richardson, Alaska

Figure 4-3 back

4.1.2 Deep Semi-confined Aquifer

This section discusses the results and trends of concentrations of COCs in the deep aquifer within the historical hot spot and in downgradient wells.

Deep Well Within the Hot Spot

One well (AP-4017) at the site is screened in the deep aquifer and meets the criteria for being within the historic hot spot, as historic concentrations of 1,1,2,2-PCA have exceeded 1,000 μg/L in this well (Figure 4-4). Concentrations of 1,1,2,2-PCA have been below 1,000 μg/L as of March 2002. The 1,1,2,2-PCA levels detected in this well during the spring and fall 2009 sampling events are the lowest concentrations recorded in the well's history. M-K analysis of AP-4017 data (Table 4-1) indicates a declining trend in 1,1,2,2-PCA concentrations and increasing concentrations of daughter products cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-DCE; TCE; and vinyl chloride. These trends and low PCE concentrations (less than the RAO) suggest that effective reductive dechlorination may be taking place.

Results of the spring and fall 2009 samples from AP-4017 indicate RAO exceedances of cis-1,2-DCE; TCE; and 1,1,2,2-PCA; as well as TBW compound 1,1,2-TCA.

Deep Wells Downgradient of the Hot Spot

The following nine wells represent locations downgradient of the hot spot. Six of the wells (AP-4011, AP-4344, AP-4525, AP-4551, AP-4019, and AP-3748) appear to be within the area of localized groundwater flow as described by CRREL (2003).

Three of the wells (AP-4345, AP-4350, and AP-5246) are considered downgradient wells that are influenced by regional and local groundwater flow.

- AP-3748
- AP-4011
- AP-4019
- AP-4344
- AP-4345
- AP-4350
- AP-4525
- AP-4551
- AP-5246

For the six wells located within the area of localized groundwater flow, COCs have typically not been detected in the two wells farthest downgradient (AP-3748 and AP-4019), except for an indiscriminate hit of TCE that exceeded the RAO in AP-4019 in October 2005 and another hit of TCE in October 2009 that did not exceed the RAO (Figure 4-2).

AP-4011 has significant declining trends (Table 4-1) associated with its 1,1,2,2-PCA (Figure 4-4); cis-1,2-DCE; and TCE concentrations. TCE has been the only RAO exceeded since August 2004 (Figure 4-2).

AP-4344 is north of the hotspot and continues to exhibit stable concentrations of TCE that exceed the RAO, with all other contaminants and daughter products below detection limits, with rare exceptions. There is no significant trend in the concentration of TCE at AP-4344 (Figure 4-2).

AP-4525 continues to experience RAO exceedances of cis-1,2-DCE; TCE; 1,1,2,2-PCA; and 1,1,2-TCA. PCE concentration reported in the June 2009 sample exceeds the RAO, although PCE was not detected in the October 2009 sample collected from this well. Mann-Kendall analysis indicated that AP-4525 shows declining trends for 1,1,2,2-PCA and 1,1,2-TCA (Table 4-1).

AP-4551 is the downgradient well closest to the hot spot and has been sampled seven times since its installation in 2005. A comparison of historical results indicated that COC concentrations are fairly stable, with RAO frequent exceedances of cis-1,2-DCE; TCE; 1,1,2,2-PCA (Figure 4-4); 1,1,2-TCA; and 1,1-DCE (Figure 4-2).

Three of the wells (AP-4345, AP-4350, and AP-5246) are considered downgradient wells, which are influenced by a combination of the localized groundwater flow to the northeast and regional groundwater flow to the west. These three wells are the farthest downgradient wells and are located to the north of the hot spot. AP-4350 and AP-4345 have had only one COC detection (in October 2007, PCE was detected below the reporting limit) since they were first sampled in June 2003. AP-5246 was installed in June 2007 and sampled five times to date. All COCs in AP-5246 were non-detect, with the exception of PCE, which was detected below the reporting limit in October 2007.

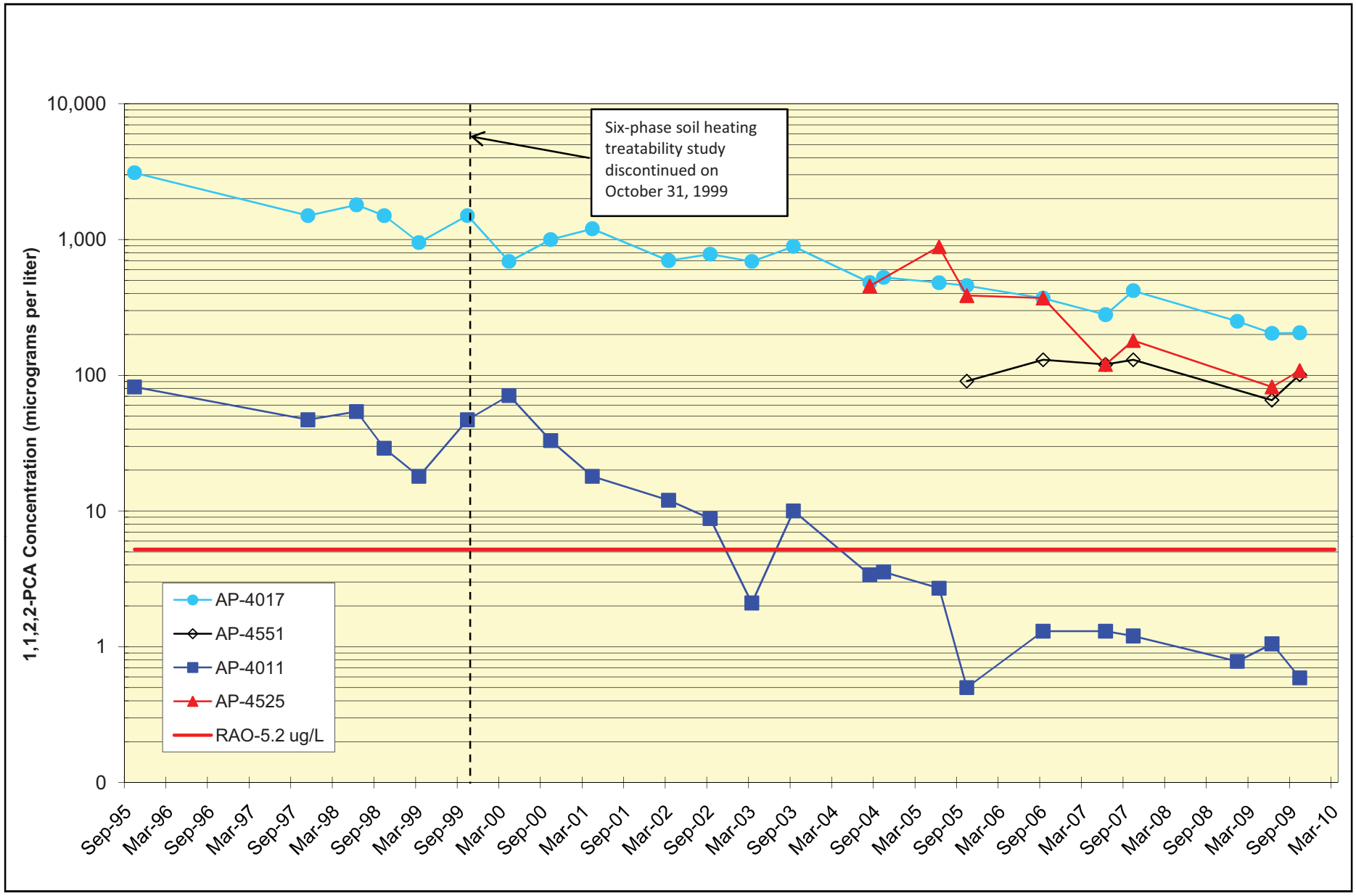


FIGURE 4-4
1,1,2,2-PCA Concentrations vs. Time
Deep Wells
OUB, Poleline Road Disposal Area
Fort Richardson, Alaska

Figure 4-4 back

Deep Aquifer Summary

Concentrations of 1,1,2,2-PCA in the deep hot-spot well (AP-4017) have decreased significantly. The combination of decreasing 1,1,2,2-PCA (Figure 4-4) as well as PCE, in association with the increasing concentrations of the daughter compounds appears to be evidence that natural attenuation is occurring. Vinyl chloride has been detected in the hot-spot well, but has not been detected in wells outside the hot spot. RAOs have not been achieved in the deep hot-spot well. TCE is the primary COC present in the deep aquifer.

The furthest downgradient RAO exceedance in the deep aquifer for the spring and fall 2009 sampling events exists at AP-4344 (10.3 µg/L and 11.2 µg/L, respectively), where neither increasing nor declining trends are evident. The deep plume appears to be bounded by AP-5246, AP-4345 to the north and AP-3748 to the northeast, where COCs are detected only rarely at concentrations below reporting limits.

4.2 Natural Attenuation Parameters

Chlorinated compounds in soil and groundwater are subject to natural attenuation processes that cause reductions in mass, concentrations, or both over time. Natural attenuation processes potentially include volatilization, sorption, diffusion, dilution, and biotic and abiotic degradation. Intrinsic biodegradation—that is, biodegradation by naturally occurring micro-organisms—is usually the principal destructive mechanism for natural attenuation of organic compounds. Evaluating natural attenuation typically relies on the use of site data to assess one or more of the following lines of evidence (paraphrased from EPA, 1999):

1. Historical groundwater and/or soil chemistry data that demonstrate a clear and meaningful trend of decreasing contaminant mass and/or concentrations over time
2. Hydrogeologic and geochemical data that can be used to demonstrate **indirectly** the type(s) of natural attenuation processes active at the site
3. Data from field or microcosm studies, conducted in or with actual contaminated site media, which **directly** demonstrate the occurrence of a particular natural attenuation process at the site (these studies may be necessary only where item 1 alone or items 1 and 2 together are inadequate or inconclusive.)

Groundwater monitoring results for the PRDA are discussed within the context of the second line of evidence for natural attenuation cited above. The following evaluation is based on a comparison of background versus hot-spot geochemical concentrations in the shallow and deep aquifers. The shallow aquifer evaluation is based on six hot-spot wells in comparison to upgradient well AP-3749. The deep aquifer evaluation is based on one hot-spot well in comparison to three downgradient wells (AP-4345, AP-4350, AP-5246) (no upgradient deep aquifer wells currently exist). In areas where natural attenuation is occurring (in the hot spot and adjacent downgradient wells), the following would be expected in comparison to background wells:

- Lower dissolved oxygen (near zero)
- Lower nitrate
- Lower sulfate

- Higher iron
- Higher manganese
- Higher methane

Former disposal activities resulted in petroleum compounds being introduced at PRDA along with chlorinated solvents (Section 1). Although petroleum compounds are not monitored because they were not present at levels of concern at the PRDA, the petroleum compounds would serve as electron donors in the breakdown of chlorinated compounds and create anaerobic conditions suitable for the reductive dechlorination processes. The following sections provide an evaluation of the geochemical results obtained during both sampling events (spring and fall 2009), and Table 4-2 includes natural attenuation indicator parameters. Well-specific results are also included in Appendix B-2.

4.2.1 Dissolved Oxygen

Dissolved oxygen is the most energetically favorable electron acceptor for biodegradation; the presence of dissolved oxygen indicates that aerobic conditions are present. For biodegradation (reductive dechlorination) of longer-chain chlorinated compounds (such as 1,1,2,2-PCA and PCE), anaerobic conditions must exist and a less energetically favorable electron acceptor (nitrate/nitrate, dissolved iron, or manganese) must be utilized. Because oxygen is the most energetically favorable electron acceptor for petroleum hydrocarbon biodegradation and is therefore used up first, oxygen levels near zero milligrams per liter (mg/L) would be expected at PRDA in an area where reductive dechlorination is occurring.

Dissolved oxygen was at saturation level (14.64 mg/L) in the upgradient background well (AP-3749) for the shallow aquifer, but between 0.11 mg/L and 1.4 mg/L in five shallow hot-spot wells (AP-3981, AP-3985, AP-3989, AP-4353, and AP-4550), indicating anaerobic conditions in that area of the plume. Also, AP-4519, located adjacent to the shallow hot-spot and the deep hot-spot well (AP-4017), contained dissolved oxygen levels indicating anaerobic conditions. One shallow hot-spot wells (AP-3983) was purged dry during both sampling events. Dissolved oxygen levels from this well are not considered to be representative of aquifer conditions. Well AP-3984, have historically had higher dissolved oxygen levels than the remaining hot-spot wells, and past reports indicated that anaerobic conditions are not present at this well. Following sections focus on the six (total) hot-spot wells and one downgradient well that exhibit anaerobic conditions (the conditions required for the reactions of the analyzed geochemical indicators to occur). Results of the spring and fall sampling events will be evaluated concurrently.

4.2.2 Nitrate

Following dissolved oxygen, nitrate is the second most energetically favorable electron acceptor and can be utilized by facultative anaerobic bacteria during petroleum hydrocarbon biodegradation. These bacteria are capable of breaking down chlorinated compounds in reactions associated with the petroleum compound biodegradation. Standard laboratory analysis for nitrate includes analysis of the total nitrate and nitrite. Due to the short holding time and reaction life of nitrite, which chemically converts to nitrate rapidly under natural conditions, samples were analyzed for total nitrate/nitrite. As a result, nitrite concentrations are typically very low or non-detect in groundwater.

Shallow Aquifer

Total nitrate/nitrite concentrations within the shallow, anaerobic wells were non-detect (<0.1 mg/L). The concentration in the upgradient well was 0.325 mg/L. The depleted nitrate concentrations indicate that nitrate has been used as an electron acceptor.

Deep Aquifer

The total nitrate/nitrite concentration within the hot-spot well (AP-4017) was non-detect (<0.1 mg/L). The concentration within the three farthest downgradient wells ranged from 0.594 mg/L to 0.873 mg/L, which indicates that nitrate has likely been used as an electron acceptor in the deep aquifer as well.

4.2.3 Dissolved Iron and Manganese

The dissolved metals, iron and manganese, were analyzed during the spring and fall 2009 sampling events. Concentrations of both metals tend to be greater within the anaerobic wells than outside, which suggests that these metals are acting as electron acceptors during anaerobic degradation of organic carbon and conditions are likely favorable for reductive dechlorination.

Shallow Aquifer

Dissolved iron concentrations within the anaerobic wells ranged from 1,150 µg/L to 16,300 µg/L. Dissolved iron in the upgradient well, AP-3749, was estimated at 336 µg/L.

Dissolved manganese within the anaerobic wells ranged from 209 µg/L to 1,040 µg/L. Dissolved manganese in the upgradient well was estimated at 1.72 µg/L.

Deep Aquifer

The spring and fall dissolved iron concentrations in the hot-spot well (AP-4017) were 3,580 µg/L and 4,230 µg/L, respectively. Dissolved iron was not detected (<1,000 µg/L) in the three downgradient wells, AP-4345, AP-4350, and AP-5246).

Up to 1,990 µg/L dissolved manganese concentrations were detected in the anaerobic well during the two sampling events. Dissolved manganese in the three downgradient wells were between non-detect (<2.00 µg/L) and 1.53J µg/L).

4.2.4 Sulfate

After dissolved oxygen, nitrate, and biologically available manganese and iron have been depleted, sulfate may be utilized as an electron acceptor for anaerobic degradation by the sulfate reduction pathway. Sulfate concentrations within the plume below background concentrations provide an indicator of sulfate reduction. Concentrations of sulfate greater than about 20 mg/L may cause competitive exclusion of dechlorinating bacteria, so measurements of sulfate concentrations are also important when trying to determine whether the prevailing groundwater geochemistry is conducive to reductive dechlorination (Wiedemeier et al., 1999).

Shallow Aquifer

The upgradient well (AP-3749) had sulfate concentrations of 12.0 mg/L and 12.5 mg/L during the spring and fall sampling events, respectively. Only two of the anaerobic, hot-spot wells had significantly lower concentrations of sulfate; AP-3981 (up to 0.190 mg/L) and AP-4353 (up to 3.45 mg/L). These two wells are located in the south area of the hot spot and are within 50 feet of each another. The remaining anaerobic wells had sulfate concentrations similar to or higher than those of the upgradient well. These results suggest that sulfate reduction may not be a predominant pathway for petroleum hydrocarbon biodegradation throughout the shallow aquifer, but may be occurring in the south portion of the hot spot. Two wells (AP-3989 and AP-4550) within the hot spot, exhibited much higher concentrations (up to 27.3 mg/L and 44.4 mg/L, respectively), which may inhibit dechlorination pathways.

Deep Aquifer

Sulfate was detected in the anaerobic well (AP-4017) at 11.8 mg/L during the October 2009 sampling event. Although there is not an upgradient well, the three wells (AP-4345, AP-4350, and AP-5246) farthest downgradient outside the plume area had sulfate concentrations ranging from 25.3 mg/L to 26.1 mg/L. Based on the difference in sulfate concentrations between the anaerobic and downgradient wells, sulfate reduction may be occurring at AP-4017 location.

4.2.5 Methane

Methane is a byproduct of methanogenesis during the biodegradation of petroleum hydrocarbons. The presence of methane indicates strongly reducing conditions that are also generally favorable for reductive dechlorination.

Shallow Aquifer

In upgradient well AP-3749, methane was not detected (<1.3 µg/L). Methane was generally highest near the south edge of the hot spot (AP-3981, AP-3985, and AP-4353), with concentrations up to 1,700 µg/L detected in the spring sample from AP-3981. Methane concentrations in the aerobic wells outside the hot spot ranged from non-detect (<1.3 µg/L) to 20 µg/L. These concentrations suggest that methanogenesis is actively occurring in the south portion of the hot spot.

Deep Aquifer

Of the ten deep wells sampled, the well within the hot spot had the highest methane concentrations of up to 710 µg/L. The highest methane concentration detected in the remaining deep aquifer wells outside the hot spot was 4.8 µg/L (AP-3748).

Overall, the concentrations and locations of methane detected during the spring and fall 2009 sampling events appear to support the conclusion that methanogenesis of petroleum hydrocarbons is occurring, and the strongly reducing aquifer conditions would be favorable for reductive dechlorination within the hot-spot plume.

4.2.6 Ethene, Ethane, and Chloride

An increase in concentrations of breakdown products ethene, ethane, and chloride in the hot spot and downgradient plume gives a direct indication of microbial degradation of chlorinated hydrocarbons. Table 4-3 summarizes ethene, ethane, and chloride results by well.

TABLE 4-2
Natural Attenuation Indicator Parameters, Spring 2009

Monitoring Well ID	Dissolved Oxygen (mg/L)	Total Nitrate/ Nitrite (mg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Sulfate (mg/L)	Methane (µg/L)
Shallow Wells Inside Hot Spot						
AP-3981[a]	0.16	ND (0.1)	8,710	534	0.190	1,700
AP-3983	0.01[b]	0.239	4,680	920	51.0	0.39 J
AP-3984	2.81	0.543	6,700	75.6	8.71	84
AP-3985[a]	0.68	ND (0.1)	7,780	648	14.8	250
AP-3989[a]	0.73	ND (0.1)	2,080	264	25.4	35
AP-4353[a]	0.37	ND (0.1)	11,900	750	3.45	950
AP-4550 [a]	0.25	ND (0.1)	8,290	936	44.1	56
Shallow Wells Outside Hot Spot						
AP-3744	10.25	0.356	342 J	ND (2.00)	11.8	ND (0.50)
AP-3745	9.35	0.394	326 J	1.15 J	13.4	ND (0.50)
AP-3747	9.91	0.299	ND (1,000)	2.07	9.2	ND (0.50)
AP-3749	**12.48**	**0.325**	**336J**	**1.72 J**	**12.0**	**ND (0.50)**
AP-3982	7.03	0.177	1,380	26.7	7.97	ND (0.50)
AP-4354	5.43	0.081 J	ND (1,000)	57.3	0.492	ND (0.50)
AP-4518	9.77	0.252	ND (1,000)	ND (2.00)	10.8	ND (0.50)
AP-4519[a]	0.25	ND (0.1)	6,850	783	1.74	290
Deep Well Inside Hot Spot						
AP-4017[a]	0.54	ND (0.1)	3,580	1,790	11.8	710
Deep Wells Outside Hot Spot						
AP-3748	9.78	0.877	ND (1,000)	0.832 J	17.8	4.8
AP-4011	11.67	0.258	342 J	ND (2.00)	11.3	ND (0.50)
AP-4019	12.52	0.242	334 J	ND (2.0)	11.3	ND (0.50)
AP-4344	9.66	0.255	ND (1,000)	ND (2.00)	11.6	ND (0.50)
AP-4345	**10.45**	**0.594**	**ND (1,000)**	**0.932 J**	**26.1**	**0.31**
AP-4350	**10.24**	**0.820**	**ND (1,000)**	**ND (2.00)**	**25.3**	**ND (0.50)**
AP-4525	13.05	0.216	520J	12.7	34.1	ND (0.50)
AP-4551	11.45	ND (0.1)	ND (1,000)	47.6	13.0	1.2
AP-5246	**11.46**	**0.873**	**ND (1,000)**	**1.53 J**	**26.1**	**ND (0.50)**

Wells and results in **bold** were used for background comparisons for their respective aquifers.
[a]Wells that exhibit anaerobic conditions.
[b] Well purged dry possibly affecting accuracy of DO measurement.
J = Analyte was present but the reported value may not be accurate or precise (estimated).
J+ = Analyte was present but the reported value may not be accurate or precise (estimated high).
µg/L = micrograms per liter
mg/L = milligrams per liter

TABLE 4-2
Natural Attenuation Indicator Parameters, Fall 2009

Monitoring Well ID	Dissolved Oxygen (mg/L)	Total Nitrate/ Nitrite (mg/L)	Dissolved Iron (μg/L)	Dissolved Manganese (μg/L)	Sulfate (mg/L)	Methane (μg/L)
Shallow Wells Inside Hot Spot						
AP-3981[a]	0.20	ND (0.100)	16,300	980	ND (0.100)	1,100 J+
AP-3983	5.69[b]	0.149	29,300	1,860	59.7	1.2 J
AP-3984	3.38	0.559	5,050	58.7	8.09	6.7
AP-3985[a]	0.22	ND (0.100)	9,690	833	15.4	260
AP-3989[a]	1.40	ND (0.100)	1,150	209	27.3	11
AP-4353[a]	0.34	ND (0.100)	16,300	963	2.15	570
AP-4550 [a]	0.11	ND (0.100)	9,060	1,040	44.4	41
Shallow Wells Outside Hot Spot						
AP-3744	7.89	0.366	ND (1,000)	0.673 J	12.6	0.51 J
AP-3745	7.92	0.426	ND (1,000)	ND (2.00)	13.1	ND (1.3)
AP-3747	10.02	0.406	ND (1,000)	0.775 J	10.3	0.51 J
AP-3749	**14.64**	**0.364**	**ND (1,000)**	**0.942 J**	**12.5**	**ND (1.3)**
AP-3982	4.62	0.208	1,050	32.1	7.98	ND (1.3)
AP-4354	5.56	0.107	ND (1,000)	108	0.594	20
AP-4518	9.70	0.273	1,250	39.7	10.8	N D (1.3)
AP-4519[a]	0.26	ND (0.100)	8,340	863	20.4	86
Deep Well Inside Hot Spot						
AP-4017[a]	0.17	ND (0.100)	4,230	1,990	11.3	530
Deep Wells Outside Hot Spot						
AP-3748	9.54	0.904	ND (1,000)	ND (2.00)	18.2	0.98 J
AP-4011	11.80	0.277	ND (1,000)	ND (2.00)	11.2	0.55 J
AP-4019	9.59	0.257	ND (1,000)	ND (2.00)	11.5	0.59 J
AP-4344	11.77	0.294	ND (1,000)	ND (2.00)	11.9	ND (1.3)
AP-4345	**9.43**	**0.602**	**ND (1,000)**	**0.683 J**	**25.7**	**0.51 J**
AP-4350	**10.35**	**0.836**	**ND (1,000)**	**ND (2.00)**	**26.1**	**ND (1.3)**
AP-4525	15.63	0.64	ND (1,000)	85.6	10.6	1.5
AP-4551	12.68	0.169	ND (1,000)	1.92J	33.1	0.57J
AP-5246	**10.99**	**0.819**	**ND (1,000)**	**0.863 J**	**25.4**	**ND (1.3)**

Wells and results in **bold** were used for background comparisons for their respective aquifers.
[a]Wells that exhibit anaerobic conditions.
[b] Well purged dry possibly affecting accuracy of DO measurement.
J = Analyte was present but the reported value may not be accurate or precise (estimated).
J+ = Analyte was present but the reported value may not be accurate or precise (estimated high).
μg/L = micrograms per liter
mg/L = milligrams per liter

TABLE 4-3
Chloride, Ethane, and Ethene Results, Spring 2009

Monitoring Well ID	Chloride (mg/L)	Ethane (μg/L)	Ethene (μg/L)
Shallow Wells Inside Hot Spot			
AP-3981	0.848	0.21J	ND (1.5)
AP-3983	7.07	1.2	0.84 J
AP-3984	2.24	0.80	1.1 J
AP-3985	1.93	0.45 J	ND (1.5)
AP-3989	1.78	ND (0.50)	ND (1.5)
AP-4353	1.16	0.74	0.34
AP-4550	7.24	0.27 J	0.25 J
Shallow Wells Outside Hot Spot			
AP-3744	1.34	ND (0.50)	ND (1.5)
AP-3745	1.33	ND (0.50)	ND (1.5)
AP-3747	1.61	ND (0.50)	ND (1.5)
AP-3749	**1.33**	**ND (0.50)**	**ND (1.5)**
AP-3982	1.14	ND (0.50)	ND (1.5)
AP-4354	0.616	ND (0.50)	ND (1.5)
AP-4518	1.33	ND (0.50)	ND (1.5)
AP-4519	2.27	1.1	0.65J
Deep Well Inside Hot Spot			
AP-4017	2.15	0.57	0.30 J
Deep Wells Outside Hot Spot			
AP-3748	72.8	ND (0.50)	ND (1.5)
AP-4011	1.34	ND (0.50)	ND (1.5)
AP-4019	5.76	ND (0.50)	ND (1.5)
AP-4344	11.3	ND (0.50)	ND (1.5)
AP-4345	**28.9**	**ND (0.50)**	**ND (1.5)**
AP-4350	**32.1**	**ND (0.50)**	**ND (1.5)**
AP-4525	6.92	ND (0.50)	ND (1.5)
AP-4551	4.94	ND (0.50)	ND (1.5)
AP-5246	**31.5**	**ND (0.50)**	**ND (1.5)**

Wells in **Bold** were used for background comparisons for their respective aquifers.
J = Analyte was present but the reported value may not be accurate or precise (estimated).
μg/L = micrograms per liter
mg/L = milligrams per liter

TABLE 4-3
Chloride, Ethane, and Ethene Results, Fall 2009

Monitoring Well ID	Chloride (mg/L)	Ethane (µg/L)	Ethene (µg/L)
Shallow Wells Inside Hot Spot			
AP-3981	0.821	0.13 J	ND (1.0)
AP-3983	7.14	2.4	2.1
AP-3984	1.82	ND (0.60)	ND (1.0)
AP-3985	1.89	0.65	0.16 J
AP-3989	1.63	ND (0.60)	ND (1.0)
AP-4353	1.01	0.39 J	0.14 J
AP-4550	7.35	0.30 J	0.30 J
Shallow Wells Outside Hot Spot			
AP-3744	1.33	ND (0.60)	ND (1.0)
AP-3745	1.24	ND (0.60)	ND (1.0)
AP-3747	1.56	ND (0.60)	ND (1.0)
AP-3749	**1.54**	**ND (0.60)**	**ND (1.0)**
AP-3982	1.07	ND (0.60)	ND (1.0)
AP-4354	0.719	ND (0.60)	ND (1.0)
AP-4518	1.34	ND (0.60)	ND (1.0)
AP-4519	2.22	0.32 J	0.23 J
Deep Well Inside Hot Spot			
AP-4017	2.10	0.46 J	0.28 J
Deep Wells Outside Hot Spot			
AP-3748	80.4	ND (0.60)	ND (1.0)
AP-4011	1.30	0.97	0.84 J
AP-4019	7.24	ND (0.60)	ND (1.0)
AP-4344	12.8	ND (0.60)	ND (1.0)
AP-4345	**22.7**	**ND (0.60)**	**ND (1.0)**
AP-4350	**34.2**	**ND (0.60)**	**ND (1.0)**
AP-4525	6.05	ND (0.60)	ND (1.0)
AP-4551	3.31	ND (0.60)	ND (1.0)
AP-5246	**32.3**	**ND (0.60)**	**ND (1.0)**

Wells in **Bold** were used for background comparisons for their respective aquifers.
J = Analyte was present but the reported value may not be accurate or precise (estimated).
µg/L = micrograms per liter
mg/L = milligrams per liter

Shallow Aquifer

- Ethene was detected in four of the shallow wells inside the hot spot during the spring and fall sampling events with concentrations ranging from 0.14J µg/L to 2.1 µg/L. Ethene was not detected in the upgradient well.

- Ethane was detected in six of the shallow hot spot wells during in spring and in five of the wells during the fall 2009 sampling event. Ethane concentrations during both sampling events ranged from 0.13J µg/L to 2.4 µg/L. Ethane was not detected in the upgradient well.
- Chloride was detected at each of the seven shallow aquifer hot spot wells at concentrations ranging from 0.821 µg/L to 7.35 µg/L. The upgradient well concentration was 1.33 µg/L in the spring and 1.54 µg/L during the fall sampling event. Five of the hot-spot wells exhibited higher chloride concentrations compared to the upgradient well during the spring and fall events.

Deep Aquifer

- Ethene and ethane concentrations of 0.30J µg/L and 0.57 µg/L, respectively, were detected in the deep hot-spot well (AP-4017) during the spring sampling event. Ethene or ethane was not detected in the samples from the three downgradient wells (AP-4345, AP-4350, or AP-5246). The fall 2009 sample from AP-4011 was the only deep outside hot-spot well sample to contain ethene (0.84J µg/L) or ethane (0.97 µg/L) during the spring or fall sampling events.
- Chloride was detected in the deep aquifer hot-spot well at 2.15 mg/L and 2.10 mg/L in the spring and fall 2009, respectively. The three farthest downgradient wells had concentrations between 22.7 mg/L and 32.3 mg/L.

The breakdown products were reported in the shallow aquifer plume wells at higher concentrations than the background wells, but not in the deep aquifer hot-spot well.

SECTION 5

Conclusions

Twenty-six groundwater monitoring wells were successfully monitored and sampled at PRDA during the spring and fall 2009 monitoring events, except for AP-4352 that was dry during fall sampling event. The conclusions below are based on the results of the monitoring events and the review of past monitoring results:

- Review of historical data suggests overall contaminant concentrations at the PRDA site are generally decreasing; however, current concentrations of some COCs within and near the hot-spot area remain in excess of RAOs.
- 1,1,2,2-PCA and TCE continue to be the most prevalent COCs within the hot spot and downgradient plume.
- Based on M-K analysis of the post-remediation data, the most significant declining trends in concentrations of COCs are apparent at monitoring wells located within the hot spot.
- Natural attenuation parameters continue to provide supporting evidence that reductive dechlorination is occurring at the site, especially within the hot-spot area.
- Concentrations of 1,1,2,2-PCA in groundwater at wells monitored in spring and fall 2009 continue to remain below the criteria of a hot-spot well defined by the ROD as exceeding 1,000 ug/L.
- The shallow plume appears to be bounded by AP-4352 to the north; however, the extent of the plume beyond AP-3747 (to the northeast) is not currently understood.
- Concentration of 1,1,2,2-PCA in downgradient, shallow-aquifer well AP-3744 continued to be less than the cleanup during these sampling events.
- The deep plume appears to be bounded by AP-4350 to the northwest, AP-5246 to the north and AP-3748 to the northeast.

SECTION 6

References

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Appendix A
Field Data Collection Forms

Appendix A1
Water Sampling Logs

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~55°F, clear, calm
Site: EC-3 Well No.: AP3714
Date: 6/2/09 Time Started: 852 Time Completed: 1015

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1114 Date of Depth Measurement: 5/20/09
Measuring Point (MP): Top of ~~PVC~~ Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 26.5' to 36.5' bgs
Total Depth of Well Below MP: 39.40' Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 29.18' 29.85' w/ pump 6/2/09
Water Column in Well: 8.55' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 5.56 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/2/09 Time Started: 911 Time Completed: 959
Four Well Volumes: 22.2 (Gallons in Well x 4)
Gallons Purged: 90 Depth of Pump Placement: 33.5' btoc
Maximum Drawdown: 29.35' Pump Rate: 1.28 - 1.4 gpm
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
918	1.4	0.9	29.14'	5.19	.315	10.91	6.41	206.1	6
924	2.3	0.9	29.15'	5.30	.317	10.66	6.35	181.5	4
933	4.2	0.9	29.29'	5.61	.316	10.23	6.81	174.2	4
940	5.6	0.9	29.29'	5.59	.318	10.29	6.86	158.2	2
947	7.0	0.8	29.35'	5.43	.318	10.30	6.87	147.5	2
963	8.9	0.8		5.39	.317	10.25	6.84	138.7	2

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: AP3714-17 Time / Date: 955 6/2/09 MS/MSD Sent collected
QC Sample Designation: Time / Date:
Evacuation Method: ~~Grundfos~~ Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: DTW from top of measurement 30.50' (after drawdown 30.49') forgot cooling shroud
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°F, Clear, sl. breeze
Site: OU B Well No.: AR3745
Date: ~~5/29/09~~ 6/1/09 Time Started: 1322 Time Completed: 1422

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☒ No ☐ Notes: No Cap, but lock present
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1229 Date of Depth Measurement: 5/26/09
Measuring Point (MP): ~~Top of PVC~~ Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: ~~Sch 40~~ 4" Well Screen Interval: 18 - 28' bgs
Total Depth of Well Below MP: ~~99.82~~ 99.60 Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 23.15' 23.27 (in 6/1/09 w/ pump)
Water Column in Well: 76.45' 76.33 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: ~~49.69~~ 49.62 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/1/09 Time Started: 1328 Time Completed: 1425
Four Well Volumes: 32 (Gallons in Well x 4)
Gallons Purged: 50 Depth of Pump Placement: 25.8'
Maximum Drawdown: 23.40' Pump Rate: 11.10
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1335	~~0.25~~ 1.1	0.9	23.13	4.44	273	9.54	6.92	61.2	116
1343	2.2	1.0	23.13'	4.74	301	9.31	6.55	66.1	43
1348	3.3	1.0	23.13	4.83	305	9.32	6.69	63.6	12
1353	4.4	1.0	"	4.82	300	9.55	6.65	70.9	11
1358	5.5	1.0	"	4.92	299	9.44	6.65	72.8	9
1402	6.6	1.0	"	4.89	301	9.35	6.64	75.1	7
/	/	/	/	/	/	/	/	/	/

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: MW-RCBWA-23 Time / Date: 1403 6/1/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: MS/MSD Sample containers for Sample (2 containers total)
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°F Clear calm
Site: OU3 Well No.: AP3747
Date: 6/2/09 Time Started: 1210 Time Completed: 1417

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☐ No ☒ Notes: No cap, but lock
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1047 Date of Depth Measurement: 5/26/09
Measuring Point (MP): (Top of ~~PVC~~ Casing) / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 32.2' Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.23' 27.12' w/pump on 6/2/09
Water Column in Well: 4.97 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 3.23 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/2/09 Time Started: 1220 Time Completed: 1402
Four Well Volumes: 12.9 (Gallons in Well x 4)
Gallons Purged: 3.2 Depth of Pump Placement: 30.5'
Maximum Drawdown: 27.45' Pump Rate: 120.8 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1244	0.8	0.1	27.91	9.90	295	9.92	7.55	64.6	7
1310	1.6	0.1	28.29	8.63	293	10.22	7.41	93.8	8
1330	2.4	0.1	28.56	9.50	294	10.46	7.59	75.4	7
1353	3.2	0.1	28.75	9.48	292	9.91	7.60	78.1	6

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 090FROBWA-29 Time / Date: 1355 6/2/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other: —
Sampling Method: Grundfos Submersible Pump / Other: —
Remarks: Well drawdown up to 1.63', but did not purge dry
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

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WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

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WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy, ~55°F
Site: OU3 Well No.: AP3748
Date: 5/28/09 Time Started: ~~1126~~ 1135 Time Completed: 1356

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition): Good - Steel
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: No Cap
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1129 Date of Depth Measurement: 5/28/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 109.9 - 169.9 bgs
Total Depth of Well Below MP: 171.6 Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 134.89' (134.98' w pump 5/28)
Water Column in Well: 36.71' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 5.87 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/28/09 Time Started: 1455 Time Completed: 1525
Four Well Volumes: 23.5 (Gallons in Well x 4)
Gallons Purged: 25 Depth of Pump Placement: 169' BTOC
Maximum Drawdown: 135.31' Pump Rate: 27 / 80 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1503	1.5	1.0	134.98'	4.42	562	10.18	7.85	100.2	17
1508	3.0	1.0	134.98	7.71	562	9.82	7.79	102.2	7
1513	4.5	1.2	"	7.53	561	9.81	7.78	105.2	5
1521	6.0	1.0	"	7.42	561	9.78	7.78	108.8	5

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 09FROBWA-13 Time / Date: 1522 5/28/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: —

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65° F, clear, lt. breeze
Site: OUB Well No.: MP3749
Date: 5/26/09 Time Started: 1342 Time Completed: 1600

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☐ No ☑ Notes: Lock yes, cap no, Added cap on 6/3
Field Screening with PID: 1.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 937 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of ~~PVC~~ Casing / Top of Steel Protective Casing / Other: Steel
Diameter of Casing: 4" Well Screen Interval: Unknown
Total Depth of Well Below MP: 24.60' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 22.40' 22.4' w/pump)
Water Column in Well: 2.20' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 1.43 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/26/09 Time Started: 1412 Time Completed: 1530
Four Well Volumes: 5.72 (Gallons in Well x 4)
Gallons Purged: 3.6 Depth of Pump Placement: ~~25~~ 23.60'
Maximum Drawdown: 22.60' Pump Rate: 105 Hz ↑
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1617	0.35	0.3	22.55'	5.05	172	16.16	6.54	235.9	30.2
1622	0.7	0.3	22.55'	6.97	173	14.66	6.91	232.9	24.2
1629	1.05	0.2	"	8.22	193	13.78	7.20	224.5	22.1
1634 42	1.4	0.3	22.60'	9.34	~~220~~ 232	~~13.34~~ 13.28	~~7.53~~ 7.47	~~221~~ 220.5	~~16.3~~ 15.7
1648	1.75	0.3	22.60'	9.88	240	12.82	7.52	119.6	11.9
1652	2.1	0.2	22.60'	9.91	256	13.54	7.55	218.3	8.68
1700	2.45	0.2	22.60'	10.36	263	13.14	7.59	218.5	6.56

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: OUFRCBWA-02 Time / Date: 1525 5/26/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: —
Sampling Method: Grundfos Submersible Pump / Other: —
Remarks:
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU3

Well No.: AP3749

Date: 5/26/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1509	2.8	0.25	22.60'	11.19	276	12.61	7.61	217.6	5.85
1515	3.15	0.25	22.60'	11.77	283	12.40	7.63	215.2	5.79
1526	3.5	0.3	"	12.12	285	12.43	7.64	210.5	7.21

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: PC. Cloudy, ~60°F
Site: OUB Well No.: AR3981
Date: 5/29/09 Time Started: 1350 Time Completed: 1520

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1303 Date of Depth Measurement: 5/26/09
Measuring Point (MP) (Top of PVC Casing) / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 29'-39' bgs
Total Depth of Well Below MP: 40.70' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 24.99' (24.83' w/ pump 5/26)
Water Column in Well: 15.71 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 10.21 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/29/09 Time Started: 1107 Time Completed: 1305
Four Well Volumes: 40.8 (Gallons in Well x 4)
Gallons Purged: 13.5 Depth of Pump Placement: 34' bTOC
Maximum Drawdown: 25.21' Pump Rate: 117.10 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1415	2.6	1.0	25.20'	5.92	470	0.49	6.69	-55.2	15
1426	5.2	1.0	25.21'	6.00	447	0.27	6.57	-77.4	6
1436	7.8	1.0	25.21'	6.01	441	0.19	6.55	-77.7	4
1448	10.4	1.0	25.21'	6.17	437	0.16	6.53	-78.9	3
1501	13.0	1.0	25.21'	6.18	437	0.16	6.52	-81.3	3
"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"

SAMPLING DATA

Odor: Petro Color: Pale green
Sample Designation: 09FROBWA-15 Time / Date: 1501 5/29/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other:
Sampling Method: ~~Grundfos Submersible Pump~~ / Other:
Remarks: Pump needed no adjustment
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy 40°'s, lt. rain
Site: C-B Well No.: AP3932
Date: 5/27/09 Time Started: 1115 Time Completed: 1313

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1121 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: Unknown
Total Depth of Well Below MP: 32.0' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 27.75' (27.72' 5/27 w/pump)
Water Column in Well: 4.25' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 2.76 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/27/09 Time Started: 1133 Time Completed: 1255
Four Well Volumes: 11.05 (Gallons in Well x 4)
Gallons Purged: 9.3 Depth of Pump Placement: 30'
Maximum Drawdown: 28.05' Pump Rate: 119.3 Hz Steady
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1140	0.7	0.5	27.82'	4.93	290'	1.09	7.05	-104.2	100
1148	1.4	0.5	27.85'	5.80	258	1.01	7.17	-124.5	73.1
1154	2.1	0.5	27.85	5.77	258	1.07	7.19	-122.3	61.7
1200	2.8	0.5	27.86	5.86	250	2.60	7.12	-98.2	59.1
1209	3.5	0.5	27.84	5.89	255	3.22	7.09	-86.0	36.0
1216	4.2	0.5	27.87	5.90	245	2.97	7.07	-79.8	29.2
1218	4.9	0.5	27.87'	5.89	248	4.71	7.04	-70.1	20.5

SAMPLING DATA

Odor: None Color: Rusty Hem clear
Sample Designation: CAFRBWA-QC Time / Date: 1253 5/27/09
QC Sample Designation: Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks:
Sampling Personnel: JPT

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU3

Well No.: AP3982

Date: 5/27/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1224	5.6	0.5	27.87'	5.85	250	5.27	7.05	61.7	16.7
1230	6.3	0.5	27.87'	5.81	243	5.61	7.03	-57.7	14.5
1235	7.0	0.5	27.87	5.77	253	6.11	7.01	-51.4	12.2
1242	7.7	0.5	27.85'	5.87	247	6.50	7.02	-45.5	9.32
1248	8.4	0.5	27.85	5.93	247	6.82	7.01	-42.1	8.74
1253	9.1	0.5	27.85	6.01	242	7.03	7.01	-38.6	8.47
/	/	/	/	/	/	/	/		

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~50°, Pt Cloudy, calm
Site: OUB Well No.: AP3953
Date: 6/1/09 Time Started: ~~AP3983~~ 910 Time Completed: 1945 (6/3/09)

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: good
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1159 Date of Depth Measurement: 5/28/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 18-28' bgs
Total Depth of Well Below MP: 30.3' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 25.76' (25.52 w/ pump in 6/1/09)
Water Column in Well: 4.78 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 3.1 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/1/09 Time Started: 935 Time Completed: 1940 (6/3/09)
Four Well Volumes: 12.42 (Gallons in Well x 4)
Gallons Purged: 6 gal Depth of Pump Placement: 28' BTOC
Maximum Drawdown: 25.85 Pump Rate: 2.10 Hz
Well Purged Dry: Yes ☑ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
	~~0.78~~								water column
6/3/09	0.5	0.1	1.4	purged dry after drawdown					> 1/4 ~~well volume~~
1934	—	—	—	9.76	5.71	0.01	7.11	-97.3	174

SAMPLING DATA

Odor: Color:
Sample Designation: OUFIROBW7-41 Time / Date: 1934 6/3/09
QC Sample Designation: Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other: Bailer
Sampling Method: Grundfos Submersible Pump / Other: Bailer
Remarks: See Well Purged Dry Logs for additional purge info.
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL PURGED DRY LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~58°, Pt cloudy, calm
Area: OUB Well No.: 403983
Date: 6/1/09 Time Started: 910 Time Completed: 1945
start stop

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: Good Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 18'-28' bgs
Total Depth of Well Below MP: 30.3' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 25.76' (25.62' w/pump 6/1/09
Water Column in Well: 4.78 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 3.1 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/1/09 Time Started: 9:35 Time Completed: 1940 6/3/09
80% Recovery Water Column: 26.78 (Water Column in Well x 0.8)
80% Recovery DTW: ~~25.48'~~ (Initial DTW + (Water Col. – 80% Recovery Water Col.)
26.47'

Purging	Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate
1	1010 (6/1/09)	1640 (6/2/09)	26.02'	Bailed 35 gal
2	1640 (6/2/09)		26.34	Bail 25 gal
3	—			

SAMPLING DATA

Odor: — Color: pale yellow
Sample Designation: 09FRBWA-41 Time / Date: 1934 6/3/09
QC Sample Designation: — Time / Date: —
and
Evacuation Method: Grundfos Submersible Pump / Other: bailer
Sampling Method: Grundfos Submersible Pump / Other: bailer

Remarks: DTW 26.36 @ Time of sample Purged dry 2 x because so slow to recharge. See Water Sample Log for Water Quality parameters
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

26.76 @ 1015 6/2/09

26.89 @ 1545 6/3/09

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°, pt cloudy, calm
Site: OUB Well No.: AP3984
Date: 6/1/09 Time Started: 1020 Time Completed: 1315

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good, dented
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 2.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1216 Date of Depth Measurement: 5/20/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 20'-30' bgs
Total Depth of Well Below MP: ~~31~~ 32.40' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 29.32' (29.02' w/pump ~ 6/1/09)
Water Column in Well: 3.38' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 2.2 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/1/09 Time Started: 1033 Time Completed: 1301
Four Well Volumes: 8.79 (Gallons in Well x 4)
Gallons Purged: 5.1 Depth of Pump Placement: 31.0'
Maximum Drawdown: 29.35' Pump Rate: 24
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1052	0.55	<0.2	29.72'	9.22	407	1.72	6.84	-134.4	126
1107	1.1	<0.2	29.75'	12.95	386	2.17	6.60	-122.0	114
1132	1.65	<0.2	29.80'	14.18	366	2.44	6.46	-100.0	92
1144	2.20	"	30.00'	15.10	355	1.91	6.40	-94.5	67
1158	2.75	<0.3	30.08'	15.28	342	2.18	6.35	-81.8	47
1207	3.3	"	30.19	15.57	335	2.36	6.28	-71.1	37
1224	3.95	"	29.95	14.97	320	2.61	6.26	-55.3	21

SAMPLING DATA

Odor: Slight Color: pale brown
Sample Designation: 09FROBWA-21 Time / Date: 1250 6/1/09
QC Sample Designation: 09FROBWA-22 Time / Date: 1252 "
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Controller needed frequent adjustments and occasional reverse flow needed
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU3

Well No.: AP3984

Date: 6/1/09

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1235	4.5	<0.2	29.93	15.62	.316	2.77	6.24	-45.5	13
1249	5.05	<0.2	30.05'	15.40	315	2.81	6.21	-42.2	9

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°F, pt cloudy, sl. wind
Site: OUB Well No.: AP3985
Date: 6-3-09 Time Started: 1035 Time Completed: 1250

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): No pad
Casing Condition (bent, dented, paint condition: Good (No protective casing, only well casing)
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☐ No ☑ Notes: Cap no lock
Field Screening with PID: 0.3

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1255 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel ~~Protective~~ Casing / Other:
Diameter of Casing: 4" 32.60' Well Screen Interval: 22-32'
Total Depth of Well Below MP: ~~26.85' 27.06'~~ Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 27.06' (26.85' on 6/3 w/ pump)
Water Column in Well: 5.75 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 3.73 (Water Column in Well x Gallons per foot)

PURGING DATA

Start 1035

Date Purged: 6/3/09 Time Started: 1040 Time Completed: 1216
Four Well Volumes: 14.95 (Gallons in Well x 4)
Gallons Purged: 11.0 Depth of Pump Placement: 29.5' btoc
Maximum Drawdown: 27.18' Pump Rate: 120 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log) ~~120 Hz~~

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1044	0.9	0.3	27.06	7.55°	.637	1.81	7.21	-178.3	45
1055	1.9	0.7	27.06	8.77	.619	1.21	7.12	-163.0	28
1100	2.7	0.7	27.18	7.40	.617	1.15	7.03	-145.8	16
1106	3.6	0.7	27.18	7.36	.594	1.20	6.89	-125.8	12
1110	4.5	0.7	27.21	7.57	.585	1.14	6.84	-119.8	11
1122	5.4	0.4	26.96	9.165	.567	1.01	6.74	-101.4	
	6.3	0.4	26.92	10.52	.566	0.85	6.76	-88.1	18

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: OUFROBWA-36 Time / Date: 1210 6/3/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other:
Sampling Method: ~~Grundfos Submersible Pump~~ / Other:
Remarks: Transducer present, used 3/4" pump set up

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AP 3985

Date: 6/3/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1145	7.2	0.7	27.01	9.05	571	~~0.68~~ 0.79	6.68	-52.0	15
1152	8.1	0.7	27.02	8.56	569	0.69	6.70	-54.8	10
1157	9.0	0.7	27.02	8.36	567	0.73	6.69	-53.0	9
1205	10.1	0.7	27.02	7.58	564	0.68	6.66	-78.1	9

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°, Pt cloudy, calm
Site: OU3 Well No.: AP3989
Date: 6/2/09 Time Started: 1130 Time Completed: 1201

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 20 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1109 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: -
Diameter of Casing: 2" Well Screen Interval: 24'-34' bgs
Total Depth of Well Below MP: 36.31' Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 29.65' (29.47' w/ pump 6/2/09)
Water Column in Well: 6.83' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.1 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/2/09 Time Started: 1241 Time Completed: 1351
Four Well Volumes: 4.37 (Gallons in Well x 4)
Gallons Purged: 2.1 Depth of Pump Placement: 31.5'
Maximum Drawdown: 29.80' Pump Rate: 125 3Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1053	0.3 L	0.15	30.23'	6.65	477	1.27	6.66	-65.5	33
1057	0.6	0.15	30.23'	7.00	473	0.96	6.68	-67.8	25
1103	0.9	0.15	30.23'	8.56	480	1.13	6.70	-73.8	4
1111	1.2	0.15	30.23'	10.90	475	0.82	6.73	-75.2	7
1120	1.5	0.15	30.44'	13.40	477	0.79	6.70	-75.4	6
1131	1.8	0.1	30.44'	13.54	482	0.75	6.70	-76.8	5
1344	2.1	0.1	30.44'	13.24	483	0.73	6.71	-78.1	4

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: 09FRDBWA-28 Time / Date: 1345 6/2/09
QC Sample Designation: - Time / Date: -
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Drawdown greater than 4", but remained stable @ 0.76'. Had to adjust controller frequently.
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~40°F, Pt cloudy, calm
Site: OUB Well No.: AP4011
Date: 6/1/09 Time Started: 1420 Time Completed: 1620

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): No pad
Casing Condition (bent, dented, paint condition: good
Well Identification (labeled with well numbers): good
Well locking cap and lock present: Yes ☐ No ☑ Notes: ~~Need to bring lock~~ Nothing to lock it to
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1238 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 111' - 137' bgs
Total Depth of Well Below MP: 138.20 Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 121.77' (127.40' w/pump 6/1/09)
Water Column in Well: 16.43 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 10.7 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/1/09 Time Started: 1440 Time Completed: 1550
Four Well Volumes: 42.7 (Gallons in Well x 4)
Gallons Purged: 105 Depth of Pump Placement: 124.2' btoc
Maximum Drawdown: 129.03' Pump Rate: ~~250.7 Hz~~ 249.4 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal/min~~):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1450	2.66	1.0	127.70'	7.46	319	9.94	7.61	51.5	9
1505	5.20	1.0	"	8.55	314	11.34	7.70	47.5	10
1515	7.9	1.0	"	8.53	318	11.59	7.71	50.7	4
1527	10.3	1.0	"	8.42	315	11.72	7.71	52.3	4
1538	13.0	1.0	"	8.44	317	11.67	7.73	61.0	3
1547	15.7	1.0	"	8.37	316	11.67	7.73	61.2	2
"	"	"	"	"	"	"	"	"	"

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA-24 Time / Date: 1548 6/1/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks:
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65°

Site: OUB Well No.: AP4017

Date: 6/3/09 Time Started: 1500 Time Completed: 1720

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good

Casing Condition (bent, dented, paint condition: Good

Well Identification (labeled with well numbers): Yes

Well locking cap and lock present: Yes ☑ No ☐ Notes: Lock yes; no cap, replaced cap on 6/3/09

Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1250 Date of Depth Measurement: 5/26/09

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 4" Well Screen Interval: 76'-96' bgs

Total Depth of Well Below MP: 98.20' Product Thickness, if noted:

Depth-to-Water (DTW) Below MP: 65.47' (65.38' w/ pump on 6/3/09)

Water Column in Well: 32.73' (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.65

Gallons in Well: 21.3 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/3/09 Time Started: 1514 Time Completed: 1656

Four Well Volumes: 85 gal (Gallons in Well x 4)

Gallons Purged: 22 Depth of Pump Placement: 93.2' BTOC

Maximum Drawdown: 65.71' Pump Rate: 184 Hz

Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (1.0 gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1542	5.3	1.0	67.95'	7.92	695	1.02	7.11	-104.0	3
1604	10.6	1.0	68.42	7.99	695	0.63	~~7.98~~ 6.29	-100.0	3
1629	15.9	1.0	68.48'	8.13	698	0.63	6.94	-97.2	2
1652	21.2	1.0	68.50'	8.24	701	0.54	6.93	-95.1	2

SAMPLING DATA

Odor: none Color: clear

Sample Designation: 09FROBWA-38 Time / Date: 1654 6/3/09

QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump / Other:

Sampling Method: Grundfos Submersible Pump / Other:

Remarks: Exceeded maximum drawdown in order to because such tall water-column. Used STW grundfos.

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy ~50° F
Site: OU3 Well No.: AP4019
Date: 5/27/09 Time Started: 910 Time Completed: 1105

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: Lock, but no cap (4")
Field Screening with PID: 4.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1054 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: 130' - 150'
Total Depth of Well Below MP: 153.00' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 137.75' (137.80' w/ pump 5/27)
Water Column in Well: 15.20' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 9.88 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/27/09 Time Started: 940 Time Completed: 1040
Four Well Volumes: 39.5 (Gallons in Well x 4)
Gallons Purged: 15 Depth of Pump Placement: 140'
Maximum Drawdown: 138.13' Pump Rate: ~2.5 V
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
949	2.5	0.7	137.80'	4.59	279	14.02	6.29	274.6	11.8
955	5.0	0.8	137.80'	4.74	279	13.20	6.97	212.0	3.80
1006	7.5	0.8	137.80	4.77	279	12.91	7.23	185.6	5.88
1018	10.0	0.8	137.80	4.78	279	12.74	7.56	155.1	4.21
1029	12.5	0.8	137.80'	4.84	279	12.57	7.59	149.1	2.99
1040	15.0	0.8	137.80'	4.90	279	12.52	7.70	141.1	1.91
—	—	—	—	—	—	—	—	—	—

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 09FRCBWA-05 Time / Date: 1040 5/27/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: Proactive
Sampling Method: Grundfos Submersible Pump / Other: Proactive
Remarks:

Sampling Personnel: JPT

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy ~50°F
Site: OU B Well No.: AP4350
Date: 5/28/09 Time Started: 920 Time Completed: 1107

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: No cap, but lock
Field Screening with PID: 9.2 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 951 Date of Depth Measurement: 5/28/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
Diameter of Casing: 2" Well Screen Interval: 176.3' - 186.3'
Total Depth of Well Below MP: 188.6' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 149.51' (149.59' w/pump 5/28)
Water Column in Well: 39.01 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 6.24 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/28/09 Time Started: 950 Time Completed: 1040
Four Well Volumes: ~~25~~ 25.0 (Gallons in Well x 4)
Gallons Purged: 120 Depth of Pump Placement: 181.3'
Maximum Drawdown: 149.92' Pump Rate: 278.5 Hz.
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal/min~~):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
958	1.6	1.0	149.59'	4.93	422	10.77	5.09	309.8	6.0
1005	32	1.0	"	7.98	419	10.42	6.60	205.7	6.0
1011	48	1.0	"	7.79	424	10.45	7.10	209.7	3.0
1018	64	1.0	"	8.07	421	10.33	7.40	184.7	3.0
1023	80	1.0	"	7.91	423	10.34	7.56	173.1	2.0
1030	96	1.0	"	7.91	424	10.28	7.60	161.3	2.0
1036	110	1.0	"	7.93	424	10.24	7.69	159.7	2.0

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: 09FROBWA-10 Time / Date: 1038 5/28/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: —
Sampling Method: Grundfos Submersible Pump / Other: —
Remarks: Transducer present
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain, ~45°F
Site: OUB Well No.: ~~AP-13~~ AP4344
Date: 5/29/09 Time Started: 1220 Time Completed: 1320

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1008 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 151.1' - 162.1'
Total Depth of Well Below MP: 163.5' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 151.17 ~~(151.12 w/pump 5/29)~~
Water Column in Well: 12.33 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.97 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/29/09 Time Started: 1230 Time Completed: 1300
Four Well Volumes: 7.9 (Gallons in Well x 4)
Gallons Purged: ~~7.9~~ 4.5 Depth of Pump Placement: 158.5'
Maximum Drawdown: 151.45' Pump Rate: 281.7 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal/min~~):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1235	0.5	1.0	151.15	4.04	315	11.10	7.64	220	76
1239	1.5	1.0	"	5.20	310	9.98	7.62	213.5	37
1242	2.0	0.8	151.15	6.85	316	10.09	7.64	213.9	36
1245	2.5	1.0	"	7.81	311	10.03	7.68	216.8	29
1247	3.0	1.0	"	8.25	311	9.84	7.71	218.1	15
1249	3.5	1.0	"	8.94	314	9.73	7.71	220.2	10
1251	4.0	1.0	"	9.35	312	9.75	7.72	220.0	8

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: 09FROBWA-17 Time / Date: 1250 5/29/09
QC Sample Designation: Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Transducer present. Pump needed no adjustments
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AR434

Date: 5/29/09

Time:	Gallons:	Pump Rate ~~(gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1155	4.5	1.0	151.15	9.37	307	9.66	7.72	228.9	6

Sampling Personnel: Jim Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy, ~55°F
Site: OUB Well No.: AP4345
Date: 5/28/09 Time Started: ~~1335~~ 1113 Time Completed: 1225

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: No cap, transducer hook and on TOC
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1035 Date of Depth Measurement: 5/20/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 149'-161'
Total Depth of Well Below MP: 186.5' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 157.23' (157.30' 5/28 w/pump)
Water Column in Well: 29.27' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 4.68 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/28/09 Time Started: 1132 Time Completed: 1200
Four Well Volumes: 18.7 (Gallons in Well x 4)
Gallons Purged: 5.0 Depth of Pump Placement: 17.5'
Maximum Drawdown: 157.63' Pump Rate: 284 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1140	1.2	0.7	157.30'	4.98	417	11.12	7.40	252.9	4.0
1147	2.4	1.0	157.32'	8.60	419	10.41	7.37	237.2	3
1151	3.6	1.0	157.30	9.39	422	10.35	7.38	226.8	3.0
1158	4.8	1.0	"	8.78	421	10.45	7.38	220.2	3

SAMPLING DATA

Odor: No Color: Clear
Sample Designation: 090528BW19-11 Time / Date: 1200 5/28/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: —
Sampling Method: Grundfos Submersible Pump / Other: —
Remarks: —

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65°F, Clear
Site: OU3 Well No.: AP4352
Date: 6/3/09 Time Started: _____ Time Completed: 2005 (6/3/09

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: No cap, added cap on 6/3/09
Field Screening with PID: 0.3

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1017 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 23'-33' BTOC
Total Depth of Well Below MP: 33.00' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 24.87' (24.80 5/27)
Water Column in Well: 8.13' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.30 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/27, 5/29, 6/2/2009 Time Started: 1604 Time Completed: 2005 (6/3/09)
Four Well Volumes: 5.2 (Gallons in Well x 4)
Gallons Purged: 10.5 gal Depth of Pump Placement: 28.0'
Maximum Drawdown: 25.13' Pump Rate: 120 Hz
Well Purged Dry: Yes ☑ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
Purge Dry									
1610	0.3	0.2	25.45'	4.31	244	11.29	7.60	191.4	>1000
1618	0.6	0.2	25.70'	5.77	251	15.52	7.54	206.2	
1623	0.9			8.46	250	14.88	7.52	203.2	
1626	1.2	0.2	27.0 hitting pump	8.54	247	14.95	7.53	202.1	
				5.98	290	20.93	7.93	121.1	257
Sample time									

SAMPLING DATA

Odor: none Color: pale yellow
Sample Designation: 09FR03WA ~~-08~~ Time / Date: 1955 5/27/09 6/3/09
QC Sample Designation: _____ Time / Date: _____
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other: bailer
Sampling Method: ~~Grundfos Submersible Pump~~ / Other: bailer
Remarks: Purged Dry 1628 (5/27/09) 26.50' = 80% recharge
See Well Purge Dry Log for AP4352
Sampling Personnel: JPT

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WELL PURGED DRY LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65° F, Clear
Area: 6U13 Well No.: AP4352
Date: 5/27-6/3/09 Time Started: 1645 5/26/09 Time Completed: 2005 (6/3/09)

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1017 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
Diameter of Casing: 2" Well Screen Interval: 23'-33' BTOC
Total Depth of Well Below MP: 33.00 Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 24.87' (24.80' 5/27)
Water Column in Well: 8.13' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.30 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/27 - 5/28/09 Time Started: 1604 (5/27) Time Completed: 2005 (6/3/09)
80% Recovery Water Column: 7.32 (Water Column in Well x 0.8)
80% Recovery DTW: 26.50' (Initial DTW + (Water Col. – 80% Recovery Water Col.)

Purging	Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate	
1	1700 (5/27/09)	1240 on 5/29/09	26.55	Bailer	4 gal.
2	1240 (5/29/09)	900 on 6/1/09	26.44	"	3 gal
3	1950 (6/2/09)	almost 80%	26.81	"	3.5 gal

SAMPLING DATA

Odor: none Color: pale yellow
Sample Designation: 09FRQBWA-42 Time / Date: 1955 6/3/09
QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump / Other: Bailer
Sampling Method: Grundfos Submersible Pump / Other: Bailer

Remarks: See Water Sample Log for Parameters.

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

28.20' @ 1600 5/28/09
26.75' @ 910 5/29/09

27.40 @ 930 6/3

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~60°F, pt cloudy, sl breeze
Site: OUB Well No.: AP4353
Date: 6/3/09 Time Started: 1150 Time Completed: 1250

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1309 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 60' - 70' btoc
Total Depth of Well Below MP: 70.00' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 33.41' (33.20' w/pump 6/3/09)
Water Column in Well: 36.80' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 5.89 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/3/09 Time Started: 1030 Time Completed: 1245
Four Well Volumes: 23.55 (Gallons in Well x 4)
Gallons Purged: 9.0 Depth of Pump Placement: ~65.0'
Maximum Drawdown: 33.53' Pump Rate: 136.7 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1044	1.5	~~0~~.4	34.34'	4.83	421	1.62	6.02	-65.0	4
1101	3.0	0.4	34.26'	4.76	426	0.86	6.17	-71.3	3
1115	4.5	0.5	34.28'	4.77	430	0.57	6.42	-75.9	2
1130	6.0	0.4	34.26'	4.79	430	0.41	6.52	-78.9	2
1145	7.5	0.4	34.29'	4.85	429	0.34	6.49	-80.0	2
1201	9.0	0.4	34.19'	4.96	430	0.37	6.56	-81.7	2
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAMPLING DATA

Odor: Slight sulphur Color: clear / yellow
Sample Designation: 09FROBWA-34 Time / Date: 1205 6/3/09
QC Sample Designation: 09FROBWA-35 Time / Date: 1207 "
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other: —
Sampling Method: Grundfos Submersible Pump / Other: —
Remarks: Steady pump. No need to adjust controller
Sampling Personnel: JPT

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: _____
Site: OUB Well No.: AP4354
Date: 5/27/09 Time Started: 1430 Time Completed: 1540

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes: _____
Field Screening with PID: 4.7

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1314 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: _____
Diameter of Casing: 2" Well Screen Interval: _____
Total Depth of Well Below MP: 19.00 Product Thickness, if noted: _____
Depth-to-Water (DTW) Below MP: 9.63' (4.70 w pump 5/27) _____
Water Column in Well: 8.37 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.34 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/27/09 Time Started: 1446 Time Completed: _____
Four Well Volumes: 5.35 (Gallons in Well x 4)
Gallons Purged: 2.3 Depth of Pump Placement: 13.0' BTOC
Maximum Drawdown: 10.03' Pump Rate: 73.5 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1452	0.35	0.25	9.96'	4.76	60	10.40	5.06	175.6	5.46
1455	0.70	0.25	9.96'	4.63	55	6.79	5.01	195.8	3.35
1459	1.05	0.3	9.96'	4.93	52	6.11	4.96	218.4	2.85
1503	1.4	0.3	9.96	5.03	50	5.78	4.98	233.7	2.97
1510	1.75	0.3	9.96	5.35	50	5.60	4.97	238.0	1.94
1514	2.1	0.4	10.01	5.55	48	5.43	4.96	242.6	1.91
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 09FRQBWA-07 Time / Date: 1514 5/27/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: _____
Sampling Method: Grundfos Submersible Pump / Other: _____
Remarks: _____
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain, ~55° F
Site: OUB Well No.: AR4518
Date: 5/29/09 Time Started: 1075 Time Completed: 1215

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes, No cap, transducer pres.
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1227 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: —
Diameter of Casing: 2" Well Screen Interval: 33.6 - 43.6'
Total Depth of Well Below MP: ~80' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 26.91' (26.78' on 5/26 w/pump)
Water Column in Well: 19.89' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 3.18 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/29/09 Time Started: 1050 Time Completed: 1155
Four Well Volumes: 12.7 (Gallons in Well x 4)
Gallons Purged: 7.0 Depth of Pump Placement: 38.8'
Maximum Drawdown: 27.11' Pump Rate: 119.3 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1102	0.8	0.5	27.10'	6.05	2.98	10.49	7.02	223.5	25
1109	1.6	0.5	27.10'	6.07	2.93	9.96	7.19	211.8	96
1115	2.4	0.5	27.10'	6.14	2.94	9.80	7.31	202.0	78
1120	3.2	0.5	27.10'	6.27	2.94	9.75	7.37	196.0	71
1128	4.0	0.5	27.10'	6.22	2.95	9.78	7.47	185.5	33
1134	4.8	0.5	27.10'	6.13	2.94	9.82	7.52	178.4	32
1140	5.6	0.5	27.10	6.15	2.95	9.73	7.53	173.4	24

SAMPLING DATA

Odor: None Color: Clear
Sample Designation: 09FROBUA-16 Time / Date: 1155 5/29/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Anne from CRREL at site checking DTW in wells. Pump needed no adjustments.
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU3

Well No.: AP7518

Date: 5/29/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1146	6.2	0.5	27.10'	6.15	295	9.84	7.55	171.6	20
1153	7.0	0.5	27.10	6.15	295	9.77	7.56	170.3	20

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65°F, clear, sl. breeze
Site: OUB Well No.: AP4519
Date: 6/2/09 Time Started: 1432 Time Completed: 1644

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Good
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1245 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 33.9-43.9' bgs
Total Depth of Well Below MP: 47.1' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 26.97' (26.26' w/pump on 6/2/09)
Water Column in Well: 20.84 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 3.33 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/2/09 Time Started: 1444 Time Completed: 1618
Four Well Volumes: 13.33 (Gallons in Well x 4)
Gallons Purged: Depth of Pump Placement: 37.0'
Maximum Drawdown: 26.59' Pump Rate: 123.1 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1458	0.8	0.2	28.54'	9.54	491	1.48	6.73	-97.1	179
15.12	~~0.4~~	0.2	28.44'	10.54	495	0.45	6.65	-102.7	29
1523	2.2	0.2	28.37'	10.71	492	0.39	6.61	-103.3	11
1539	3.0	0.2	28.39'	11.20	495	0.31	6.59	-102.3	6
1552	3.8	0.2	29.39'	11.03	495	0.26	6.59	-102.5	4
1608	4.6	0.2	29.39'	11.09	496	0.25	6.63	-102.5	3
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAMPLING DATA

Odor: Slight Color: pale yellow/gray
Sample Designation: 09FROBWA-30 Time / Date: 1610 6/2/09
QC Sample Designation: 09FROBWA-31 Time / Date: 1615 "
Evacuation Method: Grundfos Submersible Pump / Other: —
Sampling Method: Grundfos Submersible Pump / Other: ✓
Remarks: Pump steady; drawdown > 4", but stabilized @ 3.13' drawdown.

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65°F, Clear
Site: OUB Well No.: AP4525
Date: 6/3/09 Time Started: 1705 Time Completed: ~~1810~~ 1750

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good, but white powder up near edge of casing
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 34.2 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1102 Date of Depth Measurement: 5/26/09
Measuring Point (MP) (Top of PVC Casing) / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: Unknown
Total Depth of Well Below MP: 127.1 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 126.51' (126.45' on 6/3/09)
Water Column in Well: 0.65' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.10 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/3/09 Time Started: 1720 Time Completed: 1740
Four Well Volumes: 0.4 gal (Gallons in Well x 4)
Gallons Purged: 0.4 gal Depth of Pump Placement: NA
Maximum Drawdown: — Pump Rate: NA
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1750	0.4	—	126.50'	13.59	716	13.05	7.66	82.1	>1000

SAMPLING DATA

Odor: no Color: brown
Sample Designation: 09FROBWA-39 Time / Date: 1740 6/3/09
QC Sample Designation: Time / Date: —
Evacuation Method: Grundfos Submersible Pump (Other) Bailer
Sampling Method: Grundfos Submersible Pump (Other) Bailer
Remarks: Parameters measured by filling cup on YSI probe.
~~Temperature~~ ~~pH~~
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~68°, clear, sl. breeze
Site: OUB Well No.: AP4550
Date: 6/3/09 Time Started: 1330 Time Completed: 1455

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes (faded)
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1206 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 32'-42' bgs
Total Depth of Well Below MP: 43.01 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 26.81' 26.63' w/pump on 6/3/09
Water Column in Well: 16.37 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 2.61 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/3/09 Time Started: 1340 Time Completed: 1500
Four Well Volumes: 10.5 (Gallons in Well x 4)
Gallons Purged: 4.6 Depth of Pump Placement: 35'
Maximum Drawdown: 26.96' Pump Rate: 114.7 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1348	0.65	0.25	26.88	9.14	531	0.60	6.62	-82.4	356
1354	1.1	0.20	26.90	10.70	529	0.60	6.62	-82.7	126
1405	1.85	0.30	26.95'	11.10	532	0.42	6.60	-81.8	29
1413	2.40	0.35	26.93'	11.37	5~~8~~28	0.31	6.58	-81.2	17
1423	3.05	0.3	26.92'	11.49	529	0.27	6.55	-80.9	11
1431	3.7	0.3	26.92'	11.09	528	0.24	6.56	-78.5	12
1436	4.35	0.3	"	10.59	532	0.25	6.55	-75.9	9

SAMPLING DATA

Odor: slight petro Color: gray to clear
Sample Designation: 09FRDBWA-37 Time / Date: 1439 6/3/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Something preventing pump from descending past ~35' btoc in well. Set well at this depth.
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~65°F, clear
Site: OUB Well No.: AP4551
Date: 6/3/09 Time Started: 1315 Time Completed: 1910

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 18.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1208 Date of Depth Measurement: 5/26/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval:
Total Depth of Well Below MP: 98.3' (98.0' remeasure) Product Thickness, if noted:
Depth-to-Water (DTW) Below MP: 95.63' (95.52' w/pump on 6/3/09)
Water Column in Well: 2.78' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.44 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 6/3/09 Time Started: 1333 Time Completed: 1900
Four Well Volumes: 1.76 gal (Gallons in Well x 4)
Gallons Purged: 3 gal w bailer 2.1 w/ pump Depth of Pump Placement: ~98'
Maximum Drawdown: 95.85' Pump Rate: 215.5 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1341	0.6	0.25	95.94	7.89	747	18.3	7.20	-56.4	11
1350	0.9	"	97.78	Went dry					
Attempted to bail dry, but water table would not depress much									
Re-set Grundfos in well									
1829	0.1	0.15	95.70'	9.43	605	11.48	7.07	103.3	739
1833	0.3	0.15	95.60'	9.76	605	10.99	7.08	88.7	716
1838	0.5	0.15	95.65'	8.84	601	11.29	7.10	78.1	581

SAMPLING DATA

Odor: Slight Color: pale brown (clear, then)
Sample Designation: 09FROBWA-40 Time / Date: 1852 6/3/09
QC Sample Designation: — Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other: and bailer mid way
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Purged dry at 0.25 l/min. Attempt to bail dry but recharging. Second attempt w/ Grundfos worked at slower rate
Sampling Personnel: Joe Thomes

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AP 4551

Date: 6/3/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1840	0.6	0.15	95.65'	9.06	601	12.06	7.07	73.7	582
1842	0.7	0.15	95.65'	8.14	599	11.49	7.08	65.7	584
1846	0.8	0.15	95.69'	8.72	601	11.57	7.08	61.1	663
1848	6.9	0.15	95.69'	8.29	598	11.17	7.08	56.1	571
1851	1.0	0.15	95.69'	8.23	603	11.45	7.08	52.8	552
"	"	"	"	"	"	"	"	"	"

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Cloudy, ~55°F
Site: OUB Well No.: AB 5246
Date: 5/28/09 Time Started: 1320 Time Completed: 1430

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Good
Casing Condition (bent, dented, paint condition: Good
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 0.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1025 Date of Depth Measurement: 5/26/09
Measuring Point (MP): (Top of PVC Casing) / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: 148 - 158' bgs
Total Depth of Well Below MP: 161.0' Product Thickness, if noted: None
Depth-to-Water (DTW) Below MP: 151.63' (151.69' 5/25 w/ pump)
Water Column in Well: 9.37' (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.5 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 5/28/09 Time Started: 1337 Time Completed: 1405
Four Well Volumes: 6.0 (Gallons in Well x 4)
Gallons Purged: 5.0 Depth of Pump Placement: 153'
Maximum Drawdown: 152.02' Pump Rate: 277 Hz
Well Purged Dry: Yes ☐ No ☑ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1340	0.4	1.0	151.69'	4.27	499	15.79	7.76	111.9	928
1341	0.8	1.0	151.66	4.15	419	12.39	7.68	115.6	813
1342	1.2	1.0	"	4.41	419	12.82	7.64	119.9	629
1344	1.6	1.0	"	5.50	420	12.62	7.61	126.5	426
1346	2.0	1.0	"	6.77	4.69	~~9.47~~ 12.05	7.62	122.1	320
1347	2.4	1.0	"	7.56	422	11.82	7.63	122.4	241
1349	2.8	1.0	"	7.86	403	11.60	7.65	124.3	174

SAMPLING DATA

Odor: None Color: pale brown
Sample Designation: 09FROBWA-12 Time / Date: 1400 5/28/09
QC Sample Designation: — Time / Date: —
Evacuation Method: (Grundfos Submersible Pump) / Other:
Sampling Method: (Grundfos Submersible Pump) / Other:
Remarks: Conductivity jumping around. Could not get accurate reading. Transducer not in well. Transducer present in 1/08.
Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AP5246

Date: 5/28/09

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1352	32	1.0	151.69	7.91	.355	11.38	7.66	125.7	138
1354	36	1.0	"	7.90	422	11.51	7.66	126.3	114
1356	40	1.0	"	7.95	423	11.51	7.67	126.4	116
1358	44	1.0	"	8.20	420	11.46	7.67	125.9	98

Sampling Personnel: Joe Thomas

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Clear ~ 40°F
Site: OUB Well No.: AP-3984
Date: 10/12/09 Time Started: 1203 Time Completed: 1421

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 0.9 ppm 10/12/09 1207

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1259 ; 1218 Date of Depth Measurement: 10/1/09 ; 10/12/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 32.5 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 29.43 ; 29.30 10/12/09 1218
Water Column in Well: 3.07 ; 3.20 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65 ; 0.65
Gallons in Well: 2.0 ; 2.08 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/12/09 Time Started: 1222 Time Completed: 1414
Four Well Volumes: ~~8.0 pass 10/12~~ 8.32 (Gallons in Well x 4)
Gallons Purged: 6.2 total Depth of Pump Placement: 31.5
Maximum Drawdown: ~~29.76 pass 10/12~~ 29.63 Pump Rate: 126 ml/2
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1230	0.5	~~0.8 pass 10/12~~ 0.12	30.74	7.05	268	1.27	6.79	-125.6	35
1235	1.0	0.16	30.72	7.76	258	0.94	7.43	-132.2	65
1249	1.5	0.20	30.52	9.33	260	2.20	7.02	-97.9	31
1301	2.0	0.20	30.55	10.57	249	1.80	7.01	-79.1	170
1312	2.5	0.10	30.22	11.12	240	2.36	7.06	-63.9	72
1318	3.0	0.160	30.72	10.58	220	2.59	6.82	-38.1	51
1327	3.5	0.20	31.20	10.59	220	2.59	6.85	-36.5	33

SAMPLING DATA

Odor: none. Color: sl. turbid brown
Sample Designation: 09FROBWA41 Time / Date: 1408 ; 10/14/09
QC Sample Designation: Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Surger - could not maintain flow
Sampling Personnel: SLS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AW-3984

Date: 10/12/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1328	4.0	0.10	30.80	10.57	218	3.50	6.80	-30.9	72.2
1337	4.5	0.10	30.95	11.59	226	3.14	6.76	-19.4	34.9
1345	5.0	0.32	31.20	10.67	218	3.33	6.71	-10.3	33.3
1348	5.5	<0.10	31.20	10.68	219	3.29	6.77	-5.2	25.8
1404	6.0	0.10	31.22	9.69	220	3.38	6.79	-3.7	29.9

Sampling Personnel: JS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: clear ~35°F
Site: OUB Well No.: AP-4017
Date: 10/12/09 Time Started: 0940 Time Completed: 1203

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): ok
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 5.7 ppm 10/12/09 0945

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: ~~1249~~ 1002 Date of Depth Measurement: 10/1/09 ; 10/12/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 98.7 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 66.17 65.82 10/12/09
Water Column in Well: 32.53 32.88 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65 0.65
Gallons in Well: 20.82 21.05 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/12/09 Time Started: 1000 Time Completed: 1146
Four Well Volumes: ~~83.28~~ ; 84.20 (Gallons in Well x 4)
Gallons Purged: 16.1 Depth of Pump Placement: 93.2
Maximum Drawdown: ~~66.50~~ 66.15 Pump Rate: 191
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1042	5.2	1.8	68.05	7.77	374	0.29	7.69	-89.8	2
1109	10.4	0.6	68.22	8.09	373	0.17	7.58	-89.1	2
1140	15.6	0.6	68.24	8.38	374	0.17	7.49	-89.4	1

SAMPLING DATA

Odor: none Color: clear.
Sample Designation: 09FROBWA140 Time / Date: 1143 10/12/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible~~ Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Increased rate from 0.4 l/min after 1/2 hr + 1/2 of a 1/4 well volume for time sampling - at this rate it would be a min of 4 hrs until we maybe able to sample. → still had > max drawdown (67.3
Sampling Personnel: SJS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

NM

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OUB Well No.: AP-3985
Date: 10/9/09 Time Started: 1413 Time Completed: 1552

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 0.7 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1232 Date of Depth Measurement: 10/1/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing (Other: Steel Casing
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 37.3 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.28 27.35 10/9/09 1426
Water Column in Well: 10.02 9.95 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65 ~~6.47~~ 0.65
Gallons in Well: 6.51 ~~0.165~~ (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/9/09 Time Started: 1429 Time Completed: 1534
Four Well Volumes: 26.04 25.88 10/9 (Gallons in Well x 4)
Gallons Purged: 10 total Depth of Pump Placement: ~~24.5~~ 25 10/9 ~32
Maximum Drawdown: 27.62 ; 27.68 Pump Rate: 11 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: ~~(~~mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1437	1.6	1.0	27.87	6.42	325	0.49	7.96	-170.4	27
1445	3.2	0.60	27.55	6.94	312	0.25	7.68	-134.6	21
1454	4.9	0.50	27.56	7.38	307	0.26	7.46	-109.5	13
1504	6.5	0.50	27.60	7.45	305	0.28	7.34	-97.0	6
1513	8.1	0.50	27.60	7.75	305	0.22	7.26	-92.8	5
1526	9.7	0.50	27.60	7.69	304	0.22	7.22	-89.3	2

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FRORWA35 Time / Date: 1530 ; 10/9/09
QC Sample Designation: — Time / Date:
Evacuation Method: ~~Grundfos~~ Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks:

Sampling Personnel: JS - RW

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OU3 Well No.: AP-4353
Date: 10/9/09 Time Started: 0940 Time Completed: 1145

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 0.5 ppm 10/9/09 0945

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1244 Date of Depth Measurement: 10/1/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 69.4 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 33.30
Water Column in Well: 36.10 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 5.78 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/9/09 Time Started: 1007 Time Completed: 1136
Four Well Volumes: 23.12 (Gallons in Well x 4)
Gallons Purged: 9.2 total Depth of Pump Placement: ~65
Maximum Drawdown: 33.63 Pump Rate: 122
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (µS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1032	1.5	0.22	33.90	5.66	283	0.54	6.97	-77.3	2
1056	3.0	0.22	33.90	5.83	282	0.36	7.00	-83.0	1
1121	4.5	0.22	33.40	5.87	281	0.34	7.01	-85.5	1

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FRDBWA31 Time / Date: 1125 ; 10/9/09
QC Sample Designation: 09FRDBWA32 Time / Date: 1130 ; 10/9/09
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Transducer
Sampling Personnel: [illegible]

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

N/A

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OU3 Well No.: AP-4354
Date: 10/9/09 Time Started: 1145 Time Completed: 1216

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 0.2 ppm 10/9/09 1148

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1239 Date of Depth Measurement: 10/1/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other: 2"
Diameter of Casing: Well Screen Interval: unknown
Total Depth of Well Below MP: 14.0 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 13.61 ; 13.51 10/9/09 1152
Water Column in Well: 0.39 ; 0.49 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 0.06 ; 0.08 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/9/09 Time Started: 1155 Time Completed: 1213
Four Well Volumes: 0.24 ; 0.32 10/9/09 (Gallons in Well x 4)
Gallons Purged: 1.2 gal total Depth of Pump Placement: NA
Maximum Drawdown: 13.94 Pump Rate: NA
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1157	0.4	NA	13.60	7.57	39	10.33	5.84	181.6	255
1203	0.5 ss 10/9	NA	13.61	7.24	35	6.42	4.93	181.0	510
1207	~~0.8~~ 0.9	NA	13.82	6.88	36	~~5~~.56	4.73	186.7	435

SAMPLING DATA

Odor: none Color: lt Brown turbid
Sample Designation: 09FRDGWA33 Time / Date: 1210 ; 10/9/09
QC Sample Designation: Time / Date:
Evacuation Method: Grundfos Submersible Pump / Other: Disp Bailer
Sampling Method: Grundfos Submersible Pump / Other: Disp Bailer
Remarks: pulled 3 Bailers purged + collected sample -> from 4 well volumes purged
Sampling Personnel: SJS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F

Site: OU6 Well No.: AP-3981

Date: ~~10/9/09~~ 10/9 Time Started: 1217 Time Completed: 1411

10/9/09

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK

Casing Condition (bent, dented, paint condition: OK

Well Identification (labeled with well numbers): yes

Well locking cap and lock present: Yes ☒ No ☐ Notes:

Field Screening with PID: 0.5ppm 10/9/09 - 1219

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1236 Date of Depth Measurement: 10/1/09

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 4" Well Screen Interval: unknown

Total Depth of Well Below MP: 40.7 Product Thickness, if noted: none

Depth-to-Water (DTW) Below MP: 25.12

Water Column in Well: 15.58 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.65

Gallons in Well: 10.13 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/9/09 Time Started: 1235 Time Completed: 1355

Four Well Volumes: 40.52 (Gallons in Well x 4)

Gallons Purged: 11.1 Depth of Pump Placement: 34

Maximum Drawdown: 25.45 Pump Rate: 117 Hz

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: ~~(mS/cm)~~	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1252	2.5	0.60	25.40	6.54	326	0.39	7.49	-101.8	3
1308	5.0	0.60	25.40	6.62	303	0.21	7.25	-83.0	1
1328	7.5	0.60	25.40	6.74	298	0.26	7.14	-82.7	1
1342	10.1	0.60	25.40	6.80	298	0.20	7.10	-84.4	1

SAMPLING DATA

Odor: none Color: clear

Sample Designation: D9FR08WA34 Time / Date: 1345 ; 10/9/09

QC Sample Designation: MS/MSD same above Time / Date: same.

Evacuation Method: Grundfos Submersible Pump / Other:

Sampling Method: Grundfos Submersible Pump / Other:

Remarks:

Sampling Personnel: JS, KM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: LT Rain ~40°F
Site: OUB Well No.: AP-4519
Date: 10/9/09 Time Started: 1554 Time Completed: 1755

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 2.5 ppm 10/9/09 1558

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1246 Date of Depth Measurement: 10/1/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 47.1 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.07
Water Column in Well: 20.03 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 3.20 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/9/09 Time Started: 1607 Time Completed: 1730
Four Well Volumes: 12.8 (Gallons in Well x 4)
Gallons Purged: 5gal Depth of Pump Placement: 37
Maximum Drawdown: 27.40 Pump Rate: 125 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate ~~(gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: μ(~~m~~S/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1620	0.8	0.20	29.25	8.20	349	0.42	7.39	-78.1	129
1630	1.6	0.20	29.23	9.17	361	0.33	7.35	-87.7	44
1642	2.4	0.20	29.20	9.43	366	0.31	7.34	-91.6	17
1654	3.2	0.20	29.20	9.56	367	0.33	7.31	-93.3	10
1705	4.0	0.20	29.20	9.65	368	0.31	7.31	-94.5	8
1716	4.8	0.20	29.20	9.72	366	0.26	7.31	-95.2	7

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA36 Time / Date: 1718, 10/9/09
QC Sample Designation: 09FROBWA37 Time / Date: 1720, 10/9/09
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: cannot slow down any further + maintain flow
Sampling Personnel: KS & RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

NA

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Overcast ~40°F
Site: OWB Well No.: MP-3744
Date: 10/8/09 Time Started: 1516 Time Completed: 1630

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 2.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1552 ; 1525 Date of Depth Measurement: 9/29/09 ; 10/8/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: Steel Casing
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 37.6 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.95 29.87 10/8/09
Water Column in Well: 9.65 7.73 10/8 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 6.27 5.02 10/8/09 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/8/09 Time Started: 1532 Time Completed: 1605
Four Well Volumes: ~~25.08~~ 20.08 10/8 (Gallons in Well x 4)
Gallons Purged: 6.8 total Depth of Pump Placement: ~33.
Maximum Drawdown: ~~28.26~~ 30.20 10/8 Pump Rate: 1200 ml
Well Purged Dry: Yes ☐ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons: 10/8	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1539	~~1.6~~ 1.3	1.0	29.92	4.52	221	8.36	7.22	59.1	4
1542	2.6	1.0	29.93	4.69	224	8.43	7.17	69.4	4
1549	3.9	1.0	29.94	4.70	222	8.09	7.12	81.3	3
1553	5.0	1.0	29.94	4.73	225	7.93	7.10	86.0	2
1558	6.3	1.0	29.94	4.72	222	7.89	7.08	89.3	2

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FRDBW1928 Time / Date: 1600 ; 10/8/09
QC Sample Designation: ~~_____~~ Time / Date: ~~_____~~
Evacuation Method: ~~Grundfos~~ Submersible Pump / Other:
Sampling Method: ~~Grundfos~~ Submersible Pump / Other:
Remarks:
Sampling Personnel: GJS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Lt Rain ~40°F
Site: OUB Well No.: AP-3902
Date: 10/8/09 Time Started: 1334 Time Completed: 1514

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1546 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 32.0 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 28.10
Water Column in Well: 3.90 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 2.54 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/8/09 Time Started: 1355 Time Completed: 1500
Four Well Volumes: 10.16 (Gallons in Well x 4)
Gallons Purged: 8.1 total Depth of Pump Placement: ~~~30~~ 0 ss 10/8 ~31
Maximum Drawdown: 28.43 Pump Rate: 12.2 Hz = 12.3 Hz = (min 1 - 2.5)
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1359	0.6	0.50	28.31	4.38	168	2.00	8.03	-140.9	59
1407	1.2	0.40	28.31	5.76	180	0.84	8.21	-167.8	50
1411	1.8	0.40	28.31	6.05	177	0.77	8.20	-169.1	55
1416	2.5	0.40	28.31	6.23	175	0.68	8.14	-146.3	56
1423	3.1	0.60	28.34	6.28	176	0.92	8.10	-149.3	66
1426	3.7	0.60	28.35	5.45	168	1.28	8.02	-117.6	131
1430	4.3	0.60	28.35	5.42	166	2.29	7.93	-97.0	107

SAMPLING DATA

Odor: none Color: clear.
Sample Designation: 09FROBWA27 Time / Date: 1452 10/8/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Transducer.
Sampling Personnel: SLS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU3

Well No.: AP-3982

Date: 10/8/09

	Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
2	1435	5.1	0.60	28.35	5.34	165	3.13	7.85	-79.4	93
3	1439	5.7	0.60	28.35	5.29	165	3.73	7.79	-69.4	80
	1441	6.3	0.60	28.35	5.26	166	4.22	7.76	-61.9	65
	1446	7.0	0.60	28.35	5.23	169	4.59	7.72	-56.9	57
	1451	7.8	0.60	28.35	5.26	169	4.62	7.68	-48.6	44

Sampling Personnel: SJS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Lt Rain ~40°F
Site: OUB Well No.: AP-3745
Date: 10/8/09 Time Started: 1030 Time Completed: 1153

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes: locking cap, yes, no cap - replaced w/ new one
Field Screening with PID: 0.1 ppm 10/8/09 1041

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1221 Date of Depth Measurement: 10/1/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / (Other:) Steel Casing
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 29.8 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 23.45
Water Column in Well: 6.35 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 4.13 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/8/09 Time Started: 1057 Time Completed: 1137
Four Well Volumes: 16.52 (Gallons in Well x 4)
Gallons Purged: 7.1 Depth of Pump Placement: 25.8
Maximum Drawdown: 23.78 Pump Rate: 111 mL
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1059	1.0	0.70	23.55	6.01	234	8.25	4.83	180.4	11
1109	2.0	0.95	23.60	5.83	236	8.30	5.29	144.3	8
1109	3.0	0.95	23.62	5.60	234	8.22	5.58	131.2	4
1115	4.1	0.90	23.60	5.65	232	8.09	5.72	125.3	2
1119	5.1	0.95	23.60	5.64	231	7.97	5.81	1229	1
1124	6.1	0.85	23.60	5.63	233	7.92	5.86	119.6	1

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FRORWA24 Time / Date: 1130 ; 10/8/09
QC Sample Designation: 09FRORWA25 Time / Date: 1135 ; 10/8/09
Evacuation Method: Grundfos Submersible Pump / Other: _____
Sampling Method: ~~Grundfos Submersible~~ Pump / Other: _____
Remarks: replaced cap.
Sampling Personnel: JS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: 1

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

MA

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OUB Well No.: AP-4550
Date: 10/8/09 Time Started: 1159 Time Completed: 1324

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok
Casing Condition (bent, dented, paint condition: Ok
Well Identification (labeled with well numbers): Yes.
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.5 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1226 Date of Depth Measurement: 10/1/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 43.0 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 26.99
Water Column in Well: 16.01 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 2.56 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/8/09 Time Started: 1216 Time Completed: 1306
Four Well Volumes: 10.24 (Gallons in Well x 4)
Gallons Purged: 5.5 total Depth of Pump Placement: 35
Maximum Drawdown: 27.32 Pump Rate: 120 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1218	0.6	0.90	28.30	5.87	3.5	4.59	7.54	-27.9	>1000
1227	1.2	0.67	28.00	6.09	368	0.68	7.50	-48.9	>1000
1235	1.8	0.60	27.84	6.15	373	0.37	7.52	-53.5	>1000
1230	2.6	0.42	27.71	6.51	375	0.28	7.46	-53.5	231
1236	3.2	0.30	27.43	7.05	381	0.22	7.44	-57.8	82
1242	3.8	0.30	27.40	7.53	386	0.24	7.40	-61.6	50
1250	4.4	0.30	27.40	7.86	389	0.19	7.38	-65.6	32

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA26 Time / Date: 1300 ; 10/8/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: could not drop rate below 0.3 L/min + maintain flow
Sampling Personnel: SLS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AP-455O

Date: 10/8/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1158	5.2	0.35	27.40	8.06	392	0.11	7.34	-68.1	21

Sampling Personnel: JMS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

WELL PURGED DRY LOG

Shannon & Wilson, Inc.

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Sunny Clear 40° ; Rain ~40°F 10/1/09 10/7/09

Area: NWB Well No.: AP-3983

Date: 10/1/09 ; 10/2/09 , 10/5/09 Time Started: 1310 ; 1650 ; 1613 ; 1616 Time Completed: 1340 ; 1711 ; 1654
10/1/09 10/2/09 10/5/09 10/7 10/1/09 10/2/09 10/7/09

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1617 Date of Depth Measurement: 9/29/09

Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:

Diameter of Casing: 4" Well Screen Interval: unknown

Total Depth of Well Below MP: 30.5 Product Thickness, if noted: none

Depth-to-Water (DTW) Below MP: 25.91

Water Column in Well: 4.59 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.65

Gallons in Well: 2.98 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/1/09 , 10/2/09 Time Started: 1313 , 1653 , 1620 ; 1620 Time Completed: 1333 ; 1705 1642
10/1 10/2 10/5 10/7 10/1/09 10/2 10/5/09 10/7

80% Recovery Water Column: 3.67 (Water Column in Well x 0.8)

80% Recovery DTW: ~~29.58~~ 26.83 (Initial DTW + (Water Col. – 80% Recovery Water Col.)
MSL

Purging	Time Well Purged Dry	Time Well Was 80% Recovered	DTW	Pump Rate
1	1333 10/1/09	1655 10/1/09	28.00	NA
2	1705 10/2/09	16:20 10/5/09	25.99	NA
3	1635 10/5/09 Bailed 25 gallons	1628 10/7/09	26.05	NA

SAMPLING DATA

Odor: None Color: Turbid brown

Sample Designation: 09FRDBWA22 Time / Date: 1640 10/7/09

QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump Other: Disp Bailer

Sampling Method: Grundfos Submersible Pump Other: Disp Bailer

Remarks:

Sampling Personnel: BTS + RM/LI

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Sunny ~40°F (10/1/09); Rain ~40° (10/7/09)
Site: OUB Well No.: AP-3983
Date: 10/1/09 Time Started: 1310 (10/1/09); 1650 (10/2/09); 1616 (10/7) Time Completed: 1340 (10/1/09); 1711 (10/2); 1654 (10/7/09)

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 29.9 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1617 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 30.5 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 25.91
Water Column in Well: 4.59 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 2.98 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/1/09, 10/2/09; 10/7 Time Started: 1313 (10/1/09); 1653 (10/2); 1620 (10/7) Time Completed: 1333 (10/1/09); 1705 (10/2/09); 1642 (10/7)
Four Well Volumes: 11.92 (Gallons in Well x 4)
Gallons Purged: 2.6 (10/1), 1.8 (10/2), 2.5 (10/5) Depth of Pump Placement: NA
Maximum Drawdown: 26.24 Pump Rate: NA
Well Purged Dry: Yes ☒ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1317	0.75	NA	27.55	6.51	376	3.19	7.82	-109.6	270
1321	1.5	NA	28.65	5.70	374	3.24	7.89	-118.0	697
1329	2.25	NA	29.98	5.79	365	5.69	7.83	-99.5	>1000
At time of Sample Collection									
10/7 1634	0?	NA	27.00	5.82	381	6.80	11.42	-85.4	59

SAMPLING DATA

Odor: none Color: sl. turbid brown
Sample Designation: 09FROBW022 Time / Date: 1640; 10/7/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other: Bailer, Disp
Sampling Method: Grundfos Submersible Pump / Other: Bailer, Disp
Remarks: Transducer

Sampling Personnel: SJS, RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OUB Well No.: AP-3989
Date: 10/7/09 Time Started: 1159 Time Completed: 1413

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 44.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1610 Date of Depth Measurement: 9/29/09
Measuring Point (MP) ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 36.3 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 29.75
Water Column in Well: 6.55 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.05 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/7/09 Time Started: 1222 Time Completed: 1350
Four Well Volumes: 4.20 (Gallons in Well x 4)
Gallons Purged: ~3.4 Depth of Pump Placement: ~33.5
Maximum Drawdown: 30.08 Pump Rate: 125 Hz — 176 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: μ (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1214	0.25	0.6	31.95	5.32	295	2.48	6.08	14.2	95.8
1226	0.5	0.3	31.88	5.46	295	1.35	6.54	5.3	37.9
1229	0.75	0.25	30.90	5.29	296	1.02	6.92	-2.3	23.5
1231	1.0	0.25	30.84	5.47	298	0.18	7.08	-8.2	16.4
1233	1.25	0.25	31.05	5.83	302	0.14	7.21	-13.5	11.8
1256	1.5	0.25	31.00	9.31	332	2.12	7.35	-24.9	36.1
1301	1.75	0.2	31.05	8.63	326	1.58	7.43	-21.8	24.4

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA19 Time / Date: 1345; 10/7/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos~~ Submersible Pump / Other:
Sampling Method: ~~Grundfos~~ Submersible Pump / Other:
Remarks: rate fluctuated — stopped + lowered pump
Sampling Personnel: JLS + RWH

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OTB

Well No.: MP-3989

Date: 10/7/09

	Time:	Gallons:	Pump Rate L (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
2	1307	2.1	0.25	31.05	9.88	333	2.96	7.16	-15.3	38.6
3	1312	2.35	0.4	31.22	8.43	325	2.34	7.22	-30.7	26.3
	1315	2.6	0.2	31.92	8.96	326	1.37	7.36	-27.6	24.1
	1318	2.80	0.1	31.85	8.74	324	1.40	7.41	-24.1	21.6
3		3.1	stopped, moved vehicle							
4	1340	3.35	0.1							

Sampling Personnel: SLS + RWM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F
Site: OUB Well No.: AR-4518
Date: 10/7/09 Time Started: 1416 Time Completed: 1611

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1627 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown.
Total Depth of Well Below MP: 46.8 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.10
Water Column in Well: 19.70 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 3.15 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/7/09 Time Started: 1449 Time Completed: 1535
Four Well Volumes: 12.6 (Gallons in Well x 4)
Gallons Purged: 9.2 final Depth of Pump Placement: 38.8
Maximum Drawdown: 27.43 Pump Rate: 119 mL
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: ~ (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1456	0.8	0.3	27.42	5.25	145	10.80	7.25	-64.3	21.6
1510	1.6	0.5 then 1.0	27.20	6.47	197	9.31	7.33	-50.0	54.6
1518	2.4	1.0	27.42	5.22	195	10.12	6.80	-17.1	905
1520	3.2	1.0	27.40	4.46	192	9.76	6.94	-13.7	>1000
1523	4.0	1.0	27.40	4.45	191	9.70	7.00	-16.6	>1000
1525	4.8	1.0	27.42	4.45	189	9.70	7.04	-19.7	>1000

SAMPLING DATA

Odor: none Color: turbid gray
Sample Designation: 09FROBWA20 Time / Date: 1535 ; 10/7/09
QC Sample Designation: ~~FD/MS/MSD~~ Time / Date:
Evacuation Method: ~~Grundfos~~ Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: 5' Ring not hanging onto transducer - probe dangling
Sampling Personnel: SJS, RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Rain ~40°F

Site: OUB Well No.: AP-4525

Date: 10/7/09 Time Started: 1013 Time Completed: 1146

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok

Casing Condition (bent, dented, paint condition: Ok

Well Identification (labeled with well numbers): yes

Well locking cap and lock present: Yes ☒ No ☐ Notes:

Field Screening with PID: 67.5 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1601 Date of Depth Measurement: 9/29/09

Measuring Point (MP): (Top of PVC Casing) / Top of Steel Protective Casing / Other:

Diameter of Casing: 2" Well Screen Interval: unknown

Total Depth of Well Below MP: 127.2 Product Thickness, if noted: none

Depth-to-Water (DTW) Below MP: 126.51

Water Column in Well: 0.69 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.11 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/7/09 Time Started: 1022 Time Completed: 1142

Four Well Volumes: 0.44 (Gallons in Well x 4)

Gallons Purged: 5 total Depth of Pump Placement: NA

Maximum Drawdown: 126.84 Pump Rate: NA

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: µ(mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1029	0.1	NA	126.58	5.35	363	30.45	6.08	226.5	22.9
1047	0.2	NA	126.65	4.65	369	13.31	4.57	257.2	38.6
1108	0.3	NA	126.70	4.60	371	13.92	5.62	246.1	63.4
1120	0.5	NA	126.75	4.60	370	12.68	5.70	248.6	24.1

SAMPLING DATA

Odor: none Color: clear

Sample Designation: 09FRDBWP19 Time / Date: 1140 10/8/09 | 10/7/09

QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump (Other: Bailer

Sampling Method: Grundfos Submersible Pump / (Other: Bailer.

Remarks:

Sampling Personnel: SS + [illegible]

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: about 40°F, rain
Site: OU8 Well No.: AP-4345
Date: 10/5/09 Time Started: 09:35 Time Completed: 11:50

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok
Casing Condition (bent, dented, paint condition): Ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 2.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1501 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown.
Total Depth of Well Below MP: 186.5 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 157.20 (157.30 on 10/5/09 @ 9:54)
Water Column in Well: 29.30 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 4.69 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/5/09 Time Started: 10:18 Time Completed: 11:20
Four Well Volumes: 18.76 (Gallons in Well x 4)
Gallons Purged: 7.5 Depth of Pump Placement: ~171
Maximum Drawdown: 157.53 Pump Rate: ~84.80 Hz → 28 gpm
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
				1°	3%	10%	0.2	10mV	10%
10:29	~~0.55~~ 1.1 ASI	0.55	157.33	3.69	219	11.16	5.91	166.2	2.54
10:36	2.3	0.45	157.32	8.10	246	10.30	6.50	147.7	2.38
10:47	3.5	1.45	157.31	8.80	254	9.86	6.59	143.7	1.71
10:55	4.6	0.5	157.32	10.66	252	9.20	6.67	139.2	1.45
11:07	5.8	0.4	157.32	10.52	258	9.11	6.68	135.3	1.35
11:17	7	0.4	157.32	9.90	256	9.43	6.59	135.5	1.32

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA08 Time / Date: 11:20 10/5/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other:
Sampling Method: ~~Grundfos Submersible Pump~~ / Other:
Remarks: Transducer
Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

WATER SAMPLING LOG

Shannon & Wilson, Inc.

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: rain on/off about 40 F

Site: OU3 Well No.: AP-5246

Date: 10/5/09 Time Started: ~~09:35~~ 11:53 Time Completed: 13:46

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok

Casing Condition (bent, dented, paint condition: ok

Well Identification (labeled with well numbers): yes

Well locking cap and lock present: Yes ☒ No ☐ Notes:

Field Screening with PID: 1.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1511 Date of Depth Measurement: 9/24/09

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 2" Well Screen Interval: unknown

Total Depth of Well Below MP: 161.0 Product Thickness, if noted: none

Depth-to-Water (DTW) Below MP: 151.65 (151.76 @12:20 on 10/5)

Water Column in Well: 9.35 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 1.50 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/5/09 Time Started: 12:40 Time Completed: 13:15

Four Well Volumes: 6.0 (Gallons in Well x 4)

Gallons Purged: 5.2 Depth of Pump Placement: 153

Maximum Drawdown: 151.98 Pump Rate: 277 ml/min

Well Purged Dry: Yes ☐ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
12:44	0.4	0.6	151.78	3.73	230	12.33	6.20	133.6	421
12:47	0.8	0.15	151.78	3.66	225	11.42	6.35	128.4	424
12:53	1.2	0.3	151.79	3.80	227	11.54	6.48	123.0	313
12:58	1.6	0.65	151.79	3.84	229	11.63	6.49	120.0	220
1301	2	0.6	151.79	6.26	239	11.22	6.63	114.0	118
13:03	2.4	0.65	151.79	6.76	243	11.21	6.71	110.9	67.1
13:05	2.8	0.75	151.79	8.65	244	10.98	6.91	105.1	62.2

SAMPLING DATA

Odor: none Color: slightly brown

Sample Designation: 09FROBWA09 Time / Date: 1315 10/5/09

QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump / Other:

Sampling Method: Grundfos Submersible Pump / Other:

Remarks:

Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AP-5246

Date: 10/5/09

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: μ(~~m~~S/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
13:09	3.5	0.65	151.79	9.02	232	11.01	6.97	102.6	44.5
13:10	4	0.65	151.79	8.72	229	10.99	6.97	101.0	36.2

Sampling Personnel: Andrea Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: about 40 °F cloudy/overcast
Site: OUB Well No.: AP-374C
Date: 10/5/09 Time Started: 1350 Time Completed: 15:50

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition): ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1502 Date of Depth Measurement: 9/29/09
Measuring Point (MP): ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 171.6 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 134.86 (135.03 on 10/5 @ 14:03)
Water Column in Well: 36.74 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.14
Gallons in Well: 5.88 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/5/09 Time Started: 14:21 Time Completed:
Four Well Volumes: 23.52 (Gallons in Well x 4)
Gallons Purged: 9.5 Depth of Pump Placement: 169'
Maximum Drawdown: 135.19 Pump Rate: ~~2~~ 2 Hz, 262.1 Hz, 262.7 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
14:31	1.5	0.55	135.06	3.80	312	9.93	6.72	128.5	~~7.86~~ 6.95
14:43	3	0.35	135.05	5.99	330	9.36	6.91	121.6	3.25
14:59	4.5	0.45	135.06	6.76	340	9.37	6.97	116.0	3.41
15:09	6	0.65	135.06	8.47	356	9.45	7.08	111.4	2.82
15:19	7.5	0.65	135.03	8.96	360	9.46	7.14	107.9	2.12
15:27	9	0.65	135.05	8.47	356	9.54	7.09	107.0	1.86

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA10 Time / Date: 15:30 10/5/09
QC Sample Designation: — Time / Date: —
Evacuation Method: ~~Grundfos Submersible Pump~~ Other:
Sampling Method: ~~Grundfos Submersible Pump~~ Other:
Remarks: Transducer

Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: AP-3748

Date: 10/5/09

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
		L			M				

Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: ~30°F, clear sky
Site: OUB Well No.: MW-3747
Date: 10/6/09 Time Started: 0932 Time Completed: 12:20

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☑ No ☐ Notes:
Field Screening with PID: 2.0 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1531 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other: Steel Casing
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 32.2 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 27.58 (27.94 @945 10/6)
Water Column in Well: 4.62 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 3.0 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/6/09 Time Started: 9:59 Time Completed: 11:58
Four Well Volumes: 12.0 (Gallons in Well x 4)
Gallons Purged: 6 Depth of Pump Placement: ~30.5
Maximum Drawdown: ~~27.94~~ Pump Rate: 1.0 to 1.2
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: µ(mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1009	0.75	0.2	28.68	4.24	162	9.61	7.00	211.4	8.72
1031	1.5	<0.1	28.98	7.24	177	8.43	7.43	201.3	8.25
1044	2.75	0.2	29.69	7.69	180	10.20	7.56	194.9	24.5
11:10	3.0	0.6	29.76	7.63	180	9.99	7.36	202.3	>1000
11:22	3.75	0.2	30.36	8.04	182	9.94	7.48	192.3	>1000
11:31	4.5	0.25	30.52	8.08	183	10.02	7.46	187.5	751
11:46	5.25	0.1	30.78	8.94	188	10.00	7.64	181.8	255

SAMPLING DATA

Odor: None Color: clear to brown to clear
Sample Designation: 09FROBWA13 Time / Date: 1200 10/6/09
QC Sample Designation: — Time / Date:
Evacuation Method: (Grundfos Submersible Pump) / Other:
Sampling Method: (Grundfos Submersible Pump) / Other:
Remarks: Significant drawdown - can't be avoided - purging stops. Dropped pump to bottom of well. Turbidity ↑, turned brown
Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OU8

Well No.: AP-3747

Date: 10/6/09

Time:	Gallons:	Pump Rate (~~gal/~~min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~m~~S/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
11:58	6	0.1	31.31	8.19	187	10.02	7.64	113	77

Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: 30s °F, clear sky
Site: OUB Well No.: AP-4019
Date: 10/6/09 Time Started: 12:26 Time Completed: 14:03

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 10.6 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1535 Date of Depth Measurement: 9/29/09
Measuring Point (MP) ~~Top of PVC Casing~~ / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 153.1 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 137.72 (137.95 @ 1240 10/6/09)
Water Column in Well: 15.38 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 10.0 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/6/09 Time Started: 12:45 Time Completed: 13:39
Four Well Volumes: 40 (Gallons in Well x 4)
Gallons Purged: 13 Depth of Pump Placement: ~140
Maximum Drawdown: 138.05 Pump Rate: ~269.5 Hz (268.3)
Well Purged Dry: Yes ☒ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: ~~(mS/cm)~~	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
~~1300~~ 12:58 AbL	2.5	0.9	137.96	8.46	176	9.45	7.77	213.7	2.24
13:08	5	0.7	137.96	8.12	176	8.92	7.87	205.8	1.72
13:20	7.5	1.0	137.96	8.39	177	9.21	7.86	198.2	2.03
13:29	10	1.0	137.95	7.97	174	9.26	7.83	192.4	2.02
13:39	12.5	1.0	137.95	8.59	177	9.59	7.85	188.3	1.81

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA14 Time / Date: 13:40 10/6/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks:

Sampling Personnel: Andrew Lee & Robert Mackaughan

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: 40s °F overcast
Site: QNB Well No.: AP-4011
Date: 10/6/09 Time Started: 14:08 Time Completed: 16:05

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok
Casing Condition (bent, dented, paint condition: Ok
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☒ No ☒ Notes: No well cap, no lock
Field Screening with PID: no well cap

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1211 Date of Depth Measurement: 10/1/09
Measuring Point (MP): ~~Top of PVC Casing~~ / ~~Top~~ of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 138.8 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 122.11 (121.98 @ 14:13 10/6/09)
Water Column in Well: 16.69 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 10.85 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/6/09 Time Started: 14:30 Time Completed: 1548
Four Well Volumes: 43.40 (Gallons in Well x 4)
Gallons Purged: 16 Depth of Pump Placement: 124.2
Maximum Drawdown: 122.44 Pump Rate: 249 / 252 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (~~gal~~/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
14:46	2.6	0.85	122.43	8.84	193	11.69	7.79	203.3	9.81
14:58	5.4	0.75	122.45	8.91	193	11.76	7.83	195.4	14.2
15:13	8	0.8	122.49	9.27	195	11.80	7.85	186.7	5.95
15:25	10.5	0.8	122.47	9.31	195	12.13	7.85	180.5	3.70
15:36	13.2	0.85	122.49	9.55	197	11.79	7.87	174.8	2.79
15:48	16	0.8	122.48	9.63	197	11.80	7.87	170.6	2.22

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA15 Time / Date: 15:50 10/6/09
QC Sample Designation: Time / Date:
Evacuation Method: ~~Grundfos Submersible Pump~~ / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: DO is reading = 0. Grinder Pump Station

Sampling Personnel: Andrew Lee & Robert MacNaughton

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Clear ~30°F
Site: OUB Well No.: AP-3149
Date: 10/2/09 Time Started: 0930 Time Completed: 1110

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1400 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 4" Well Screen Interval: unknown
Total Depth of Well Below MP: 24.6 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 22.18
Water Column in Well: 2.42 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.65
Gallons in Well: 1.57 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/2/09 Time Started: 1000 Time Completed: 1056
Four Well Volumes: 6.28 (Gallons in Well x 4)
Gallons Purged: 3.6 total Depth of Pump Placement: ~23.6 JS 9/2/09 24
Maximum Drawdown: 22.51 Pump Rate: 108Hz - 128 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1011	0.4	0.20	22.43	4.01	232	12.92	4.97	236.5	44.8
1032	0.8	0.30	22.54	5.31	246	13.19	5.44	214.7	81.0
1035	1.2	0.30	22.54	5.92	246	12.33	5.81	209.2	104.
1/2 1041	1.6	>1.0	23.00	7.26	258	13.65	6.20	198.6	118
2 1043	2.0	1.0	23.0	6.07	250	14.72	6.14	196.5	35.3
	2.4	surged - missed this volume							
2/3 1046	2.8	0.50	23.22	5.33	244	14.65	6.04	194.8	34.0

SAMPLING DATA

Odor: none Color: Clear
Sample Designation: 09FRUBWA02 Time / Date: 1050
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Surged - lowered pump to get flow, but fluctuated
Sampling Personnel: JS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OVB

Well No.: AP-3749

Date: 10/2/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1049	3.2	0.55	23.20	5.34	249	14.64	6.07	194.3	40.8

Sampling Personnel: GS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Clear ~30°F
Site: OU3 Well No.: AP-435D
Date: 10/2/09 Time Started: 1115 Time Completed: 1347

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): Ok
Casing Condition (bent, dented, paint condition): Ok
Well Identification (labeled with well numbers): Yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 22.1 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1421 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 188.6 Product Thickness, if noted: none
Depth-to-Water (DTW) Below MP: 149.59
Water Column in Well: 39.01 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 6.24 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/2/09 Time Started: 1200 Time Completed: 1310
Four Well Volumes: 24.96 (Gallons in Well x 4)
Gallons Purged: ~14.5 total Depth of Pump Placement: ~180
Maximum Drawdown: 149.92 Pump Rate: 27 Hz
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (µS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1209	1.6	1.0	149.83	3.71	309	10.87	5.79	171.4	4.25
1216	3.1	1.0	149.80	7.21	351	10.62	6.36	161.5	4.25
1221	4.7	1.0	149.81	7.87	351	10.39	6.52	158.0	2.75
1228	6.2	1.0	149.83	7.90	351	10.45	6.52	154.5	2.99
1234	7.7	1.0	149.83	8.38	351	10.22	6.59	149.5	3.99
1240	9.2	1.0	149.83	8.58	351	10.28	6.64	145.3	4.51
1245	10.8	1.0	149.85	8.38	351	10.44	6.65	142.4	4.27

SAMPLING DATA

Odor: none Color: clear
Sample Designation: OPFRDBWA03 Time / Date: 1303 / 10/2/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks:
Sampling Personnel: SJS & RMH

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: MW-4350

Date: 10/2/09

	Time:	Gallons:	Pump Rate ~~(gal/min)~~:	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (~~mS~~/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
2	1253	12.3	1.0	149.85	8.21	351	10.38	6.64	138.5	3.56
3	1300	13.9	1.0	149.85	8.39	351	10.35	6.69	132.4	3.29

Sampling Personnel: BS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: overcast ~35°F
Site: OU3 Well No.: AP-4344
Date: 10/2/09 Time Started: 1350 Time Completed: 1541

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): OK
Casing Condition (bent, dented, paint condition: OK
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes:
Field Screening with PID: 1.8 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1445 Date of Depth Measurement: 9/29/09
Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:
Diameter of Casing: 2" Well Screen Interval: unknown
Total Depth of Well Below MP: 163.5 Product Thickness, if noted: none.
Depth-to-Water (DTW) Below MP: 151.20
Water Column in Well: 12.30 (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: 0.16
Gallons in Well: 1.97 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/2/09 Time Started: 1419 Time Completed: 1519
Four Well Volumes: 7.88 (Gallons in Well x 4)
Gallons Purged: 8.3 total Depth of Pump Placement: ~150
Maximum Drawdown: 151.53 Pump Rate: 2 GPM
Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1424	0.5	0.40	151.40	4.00	236	13.23	6.37	355.5	35.4
1431	1.0	0.40	151.40	4.04	235	12.96	6.23	362.7	36.7
1436	1.5	0.40	151.40	4.16	236	12.73	6.30	358.0	23.9
1440	2.0	0.40	151.40	4.81	239	12.65	6.41	355.8	12.3
1446	2.5	0.40	151.40	6.64	254	12.22	6.73	343.6	8.54
1451	3.0	0.25	151.40	8.22	266	11.12	6.98	338.1	8.06
1455	3.5	1.0	151.40	9.19	271	12.79	7.03	332.9	10.3

SAMPLING DATA

Odor: none Color: clear
Sample Designation: 09FROBWA04 Time / Date: 1515 ; 10/2/09
QC Sample Designation: — Time / Date: —
Evacuation Method: Grundfos Submersible Pump / Other:
Sampling Method: Grundfos Submersible Pump / Other:
Remarks: Transducer

Sampling Personnel: JJS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: MP-4344

Date: 10/2/09

	Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
2	1457	4.0	1.0	151.40	10.80	283	11.99	7.18	329.1	5.51
3	1500	4.5	1.0	151.40	11.34	289	11.58	7.27	326.8	3.70
	1502	5.0	1.0	151.40	10.68	282	11.76	7.22	326.1	3.08
	1504	5.5	1.0	151.40	9.50	274	11.92	7.15	326.1	2.96
3	1506	6.0	1.0	151.40	9.06	272	11.80	7.09	325.0	2.58
4	1508	6.5	1.0	151.40	8.92	270	11.30	7.05	322.4	2.20
	1510	7.0	1.0	151.40	8.91	269	11.78	7.03	321.1	2.48
	1512	7.5	1.0	151.40	9.25	274	11.86	7.06	318.0	2.44
	1514	8.0	1.0	151.40	9.36	275	11.77	7.07	316.7	2.40

Sampling Personnel: JS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: Sunny ~40°F

Site: OU3 Well No.: AP-4551

Date: 10/1/09 ; 10/2/09 Time Started: 1350 (10/1/09) ; 1612 (10/2/09) Time Completed: 1520 (10/1/09) ; 1648 (10/2/09)

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok

Casing Condition (bent, dented, paint condition: ok

Well Identification (labeled with well numbers): yes

Well locking cap and lock present: Yes ☒ No ☐ Notes:

Field Screening with PID: 0.2 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1224 Date of Depth Measurement: 10/1/09

Measuring Point (MP): Top of PVC Casing / Top of Steel Protective Casing / Other:

Diameter of Casing: 2" Well Screen Interval: unknown

Total Depth of Well Below MP: 98.0 Product Thickness, if noted: none

Depth-to-Water (DTW) Below MP: 95.90

Water Column in Well: 2.10 (Total Depth of Well Below MP - DTW Below MP)

Gallons per foot: 0.16

Gallons in Well: 0.34 (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: 10/1/09 ; 10/2/09 Time Started: 1400 (10/1) ; 1615 (10/2) Time Completed: 1515 (10/1) ; 1640 (10/2)

Four Well Volumes: 1.36 (Gallons in Well x 4)

Gallons Purged: 1.8 gal Depth of Pump Placement: NA

Maximum Drawdown: 96.23 Pump Rate: NA

Well Purged Dry: Yes ☐ No ☒ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1403	0.2	NA	95.81	6.31	236	10.10	6.87	-5.2	250
1413	0.3	NA	95.95	5.53	438	13.70	7.36	-12.0	274
1418	0.6	NA	95.95	5.58	434	14.07	7.42	-8.3	332
1428	0.7	NA	95.95	5.73	435	14.10	7.48	-0.5	303
1435	0.9	NA	95.95	5.75	235	14.00	7.42	19.0	179
1450	1.1	NA	95.95	5.53	437	14.73	7.29	26.8	302
1501	1.2	NA	95.95	5.46	427	15.20	7.33	24.1	267

SAMPLING DATA

Odor: none Color: turbid gray

Sample Designation: 09FROBWA06 Time / Date: 1635 10/2/09

QC Sample Designation: — Time / Date: —

Evacuation Method: Grundfos Submersible Pump / Other: Disp Bailer

Sampling Method: Grundfos Submersible Pump / Other: Disp Bailer

Remarks:

Sampling Personnel: JLS + RMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: OUB

Well No.: AR 4551

Date: 10/1/09 ; 10/2/09

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)
1510	1.4	NA	95.95	5.36	425	15.63	6.98	33.2	226
At time of Sample Collection 10/2/09									
1627	1.6	NA		5.78	431	14.68	5.95	466.1	136

Sampling Personnel: SJS + KMM

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Job No: 32-1-17261 Location: Fort Richardson, Alaska Weather: _____
Site: OUB Well No.: AP-4352
Date: _____ Time Started: _____ Time Completed: _____

WELL INSPECTION OBSERVATIONS

Pad Condition (cracked, heaved, subsided): ok
Casing Condition (bent, dented, paint condition: ok
Well Identification (labeled with well numbers): yes
Well locking cap and lock present: Yes ☒ No ☐ Notes: _____
Field Screening with PID: 1.3 ppm

INITIAL GROUNDWATER LEVEL DATA

Time of Depth Measurement: 1437 Date of Depth Measurement: 9/29/05
Measuring Point (MP): (Top of PVC Casing) / Top of Steel Protective Casing / Other: _____
Diameter of Casing: 2" Well Screen Interval: unknown.
Total Depth of Well Below MP: 33.0 Product Thickness, if noted: _____
Depth-to-Water (DTW) Below MP: none _____
Water Column in Well: _____ (Total Depth of Well Below MP - DTW Below MP)
Gallons per foot: _____
Gallons in Well: _____ (Water Column in Well x Gallons per foot)

PURGING DATA

Date Purged: _____ Time Started: _____ Time Completed: _____
Four Well Volumes: _____ (Gallons in Well x 4)
Gallons Purged: _____ Depth of Pump Placement: _____
Maximum Drawdown: _____ Pump Rate: _____
Well Purged Dry: Yes ☐ No ☐ (If yes, use Well Purged Dry Log)

Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Dry well.

SAMPLING DATA

Odor: _____ Color: _____
Sample Designation: _____ Time / Date: _____
QC Sample Designation: _____ Time / Date: _____
Evacuation Method: Grundfos Submersible Pump / Other: _____
Sampling Method: Grundfos Submersible Pump / Other: _____
Remarks: DTW - did not measure water in well - when brought up probe, probe was dry.
Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65
ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Shannon & Wilson, Inc.

WATER SAMPLING LOG

Continued from previous page

Job No: 32-1-17261 Location: Fort Richardson, Alaska Site: _____

Well No.: _____

Date: _____

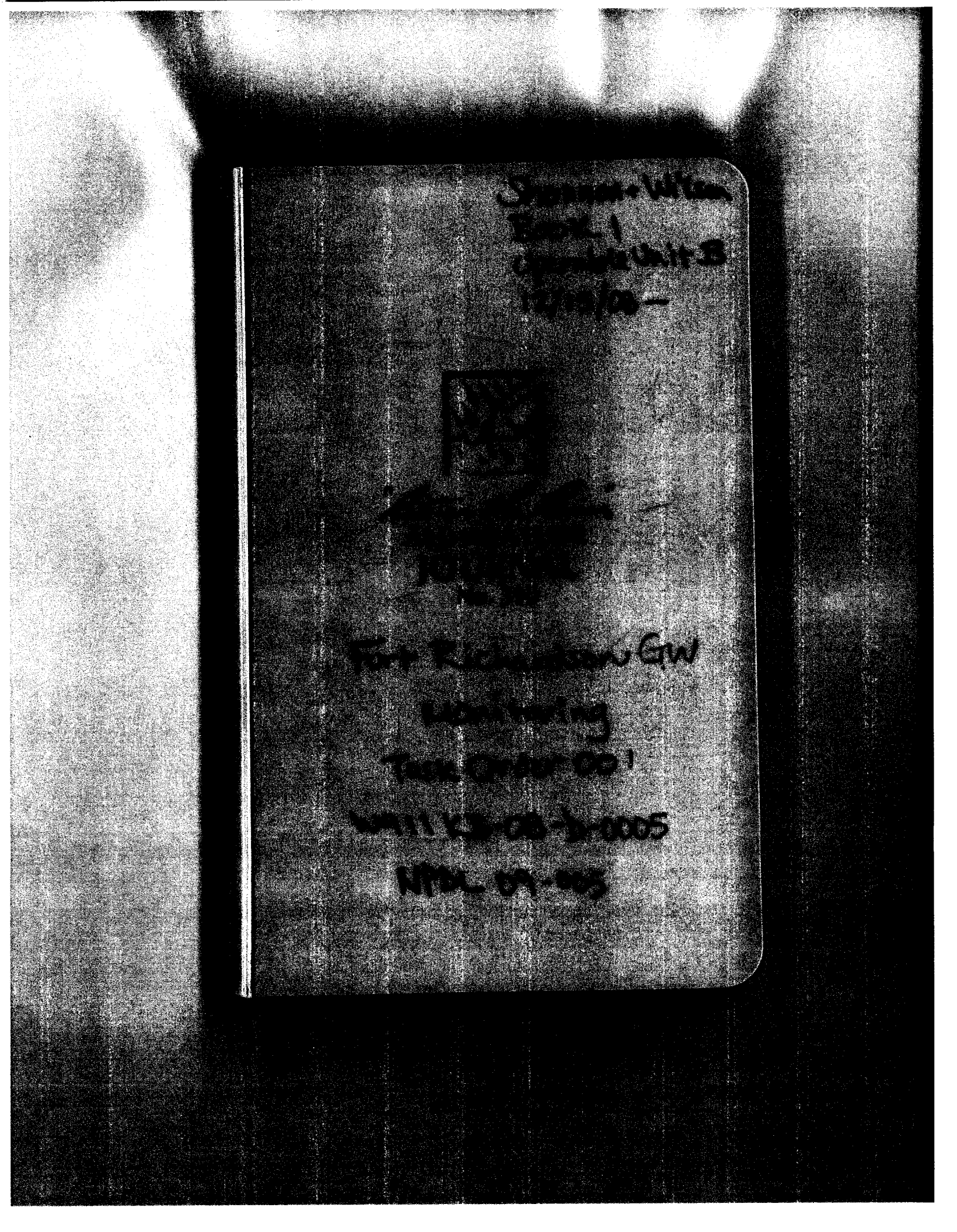
Time:	Gallons:	Pump Rate (gal/min):	Drawdown (feet):	Temp: (°C)	Sp. Cond.: (mS/cm)	DO: (mg/L)	pH: (S.U.)	ORP: (mV)	Turb: (ntu)

Sampling Personnel: _____

WELL CASING VOLUMES (GAL/FT): 2" = 0.16 4" = 0.65

ANNULAR SPACE VOLUME (GAL/FT): 4" casing and 2" well = 0.23

Appendix A2
Field Log



17261-OUB
JPT

May 26, 2009
Weather - 55-65°F, Clear
Sampling Personnel: Joe Thomas
Robert MacNaughton
PPE: Nitrile gloves, Steel toe boots, safety glasses
Sampling equipment: DTW meter, Product interface probe, YSI 556, Hach Turbidimeter, Grundfos pump

Samples Collected
09FROBWA-01 (1200) Trip Blank
09FROBWA-02 AP3749 (1528)
09FROBWA-03 Rinsate (1535)
Cooler # 31

IDW
Well AP 3749 - 3.6 gal
Decon H2O 9.5 gal
~~Well AP~~

May 26, 2009
8:25 - Leave S+W office
9:00 - Arrive @ Environmental Resources office to pick up radio. Dick said we need a radio, and that he would make sure we have one for remainder of project. He also gave us a second battery.
9:30 Enter Poleline Rd disposal area
AP3749 - Calibrate PID (Result 163 ppm).
935 - 1320 - Collect Depth to water at each well in the following order:

AP3749,	AP3982,	AP3985,
AP4356,	AP3748,	AP3981,
AP4344,	AP3983,	AP4353, and
AP4352,	AP4550,	AP4354.
AP5246,	AP4551,	
AP5345	AP3984,	*No product
AP3747,	AP4518,	measured
AP4019,	AP3745,	in site
AP4525,	AP4011,	wells
AP3989,	AP4519,	
AP3744,	AP4017,	

17261-OUB
JPT

May 26, 2009

1332 - called Hayden + Dick to find out how to get Base pass for Robert. Dick said to talk to his secretary Marsha

1341 - Arrive @ AP3749 Purge 35 gal before collecting sample. Sample desig. 09FROBWA-02 collected at 1526

1355 - Collect rinsate sample with cooling shroud. (09FROBWA-03 @ 1555)

1608 - Leave Poleline Rd. disposal fac

1616 - Check out w/ Range control

1620-1632 - Dump water into drum OUB-1 @ POL Dewatering station

1708 - Back @ SOW

End of 5/26/09

May 27, 2009

Weather ~50°F cloudy

Sampling personnel: Joe Thomas + Robert MacNaughton

PPE - Nitrile gloves, steel toe boots, safety glasses

Sampling equipment: DTW meter, YSI 556, Hach turbidimeter, Grundfos, and Proactive pumps

Samples collected (1000)

09FROBWA-04 Trip blank
09FROBWA-05 AP4019 (1040)
09FROBWA-06 AP3982 (1253)
09FROBWA-07 AP4354 (1516)
09FROBWA-08 Rinsate (1700)

Cooler #32

IDW - Drum OUB-1

AP4019	15 gal
AP3982	9.3 gal
AP4354	2.3 gal
AP4352	4 gal
Decon	9.0 gal

17261-OUB
JPT

May 27, 2009

8:15 - Leave SJW office

8:45 - Enter Ft. Rich

9:55 - Enter Poleline Rd.

910 - Arrive @ AP4019. Used Proactive stainless steel pump on this well to see how it differs from Grundfos, and if it performs any better. This well has good recharge, and we are able to turn pump rate to ~1.0 L/min so it worked well. (Depth of pump = 140'. Like Grundfos, the power level needed to be adjusted regularly - It was difficult to control flow rate at minute increments, which for this well, ~~did~~ was not necessary. For deep wells that potentially run dry, this pump may be problematic because it does not have as much adjustability at low rates. One advantage was that we did not have to increase or decrease the power level by much in order to maintain a

relatively constant rate. This would be beneficial when trying to meet stabilization criteria because with Grundfos pump, the well has a tendency to surge when power level gets too high - My method to avoid this is to turn power level down to less than the initial power level, bringing the water in reverse for a few seconds. This too seems to ~~prevent~~ delay stabilization

1040 - Collect sample CAFROBWA-05 from AP4019.

1115 - Set up on AP3982

1133 - Begin purging. Blew fuse on Proactive while disconnecting so using Grundfos again

1152 - Call David Britch (ENSR) to inform him that we will need the IDW drums emptied by tomorrow afternoon. He said he will come out tomorrow to empty drums

17261-OUB
JPT

May 27, 2009

1315 - Called Ann @ CRELL to inform her that the clip that attaches the transducer cable to the TDC @ AP3982 fell off and we cannot locate it. She told me how to fasten it temporarily, and that she will be out here in the next couple days to check water levels and will put new clip on it then

1320 - Robert calls Natasha at Env. Resources office to give her info for his JBear pass

1345 - 1430 - Went to set up at AP4345. Found out as pump was being lowered into well that cord for grundfos was only 155' in length and we needed ~165' for this well. Took nearly an hour to get started on next well

17261-OUB
JPT

May 27, 2009

Called TTT to get a longer Grundfos reel

1430 - Set up on shallow well AP 4354 -

1516 - Collected Sample 09FROBWA-07 from AP4354

1540 - Set up at AP4352. Did not sample this well in Jan 08 because of blockage. DTW measurement indicated no blockage this event. Well purged dry (at least down to pump intake). After collecting rinsate Purged well dry with bailer (4 gal.)

1700 - Collect Rinsate Sample 09FROBWA-08

1720 - Leave Poleline Rd disp. Area.

1730 - Check out w/ range control

1730 - 1750 - IDW station. Filled Drum OUB-1

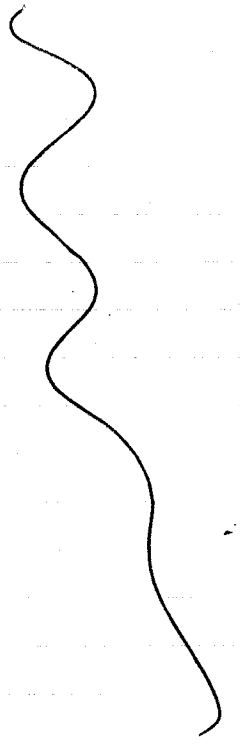
1755 - Stop for drink @ gas station

1835 - Stop for fuel @ gas station Robert wanted to get gas at the Garrett Tesoro. Why?

17261-OUB
JPT

May 27, 2009
1845 - Back at SAW office

End of 5/27/09



17261-OUB
JPT

May 28, 2009
Weather: 45-55° F, Lt. Rain.
Sampling Personnel: Joe Thomas + Robert MacNaughton
PPE - Nitrile gloves, steel toe boots
Sampling equipment: DTW meter, YSI 556, Hach turbidimeter, Grundfos pump

Samples Collected

09FROBWA-09 - Trip blank (1000)
09FROBWA-10 AP4350 (1038)
09FROBWA-11 AP4345 (1200)
09FROBWA-12 AP5246 (1400)
09FROBWA-13 AP3748 (1522)
09FROBWA-14 Rinsate (1546)
Cooler #33

IDW Drum OUB 2

AP4350	12 gal
AP4345	5 gal
AP5246	5 gal
AP3748	6.5
Decon	9 gal

May 28, 2009
7:55 - Leave S+W office
8:02 - Drop Cooler # 32 off at SGS
8:10 - 8:15 - Drop ProActive Pump off @ TTT and exchange 155' Grundfos reel for 300' reel
8:40 - Pick up charged battery from Env - Resources
9:05 - Enter Poleline Rd disposal area
9:10 - Begin bailing AP4352 dry for second time. Well only charged to ~50%. Did not purge dry
920 Start Setup @ AP4350
930 - Realize we only have 2 0.45 micron filters. Call Haydar to request someone come out with more filters
1038 - Collect Sample 09FROBWA-10 from AP4350.
1113 - Begin setup @ AP4345
1200 - Collect Sample

May 28, 2009
09FROBWA-11 from well AP4345.
12:28 - Leave Poleline Rd. disposal area to meet Jim at entrance, who is bringing 4 more filters
1242 - Meet Jim at entrance
1315 - Enter Disposal Area
1320 - Setup @ well AP5246
1400 - Collect Sample 09FROBWA-12 from AP5246
1430 - Leave AP46
1435 - Begin setup @ AP3745
1519 - David Britch (ENSR) called to say he couldn't make it out to Ft. Rich POL De-watering facility today due to a fire emergency. He said to combine drums if we need to, and grab an additional well from where we had before if need be.
1522 - Collect sample 09FROBWA-13 from AP3748

(13) 17261-OUB
JPT

May 28, 2009
Decon equipment. Collect Rinsate Sample 09FROBWA-14 @ 1546
1600 - Return to AP4352 to check recharge. Had only recharged to 59% since yesterday @ 1700 Drum
16-20-1633 - Fill 3/3 of OUB-2. Used drum ~~from~~ off to side of concrete pad since Dave had not been by to empty 5 other drums.
1640 - Exchange radio battery @ Env. resources office
1710 - Back @ Office
1730 - End demob for day

End of 5/28/09

Joe Thomas

17261-OUB
JPT

(14)

May 29, 2009
~~Sa~~ Weather: ~55°F, Raining
Sampling Personnel Joe Thomas and Robert MacNaughton
PPE - Nitrile gloves + Steel toe boots
Sampling equipment DTW Meter, YSI 556, Hach Turbidimeter, Grundfos pump

Samples collected - Coder # 34
09FROBWA-15 Trip blank 1100
09FROBWA-16 AP4518 (1155)
09FROBWA-17 AP~~3981~~ 4344 (1254)
09FROBWA-18 AP3981 (1501)
09FROBWA-19 Rinsate (1520)

IDW - ~~0~~ Drum OUB-~~1~~3

AP4518	7.0 gal
AP4344	4.5 gal
AP3981	13.5 gal
Decon	45 gal
AP4352	3 gal

17261-OUB
JPT

May 29, 2009
8:08 - Leave S+W office
8:11 - Drop off cooler #B3 @ SGS
8:20-8:27 - Stop @ TTT to buy box of 45 Micron filters and reserve Proactive pump and water quality meters for next Monday throug Wed.
9:58 - Enter Poleline Rd.
9:10 - Check DTW @ AP4352. DTW 0.25' too deep to bail still. Should recheck at end of day.
9:15 Arrive @ AP4518
9:20 - Call Haydar to request someone sending Generator out because we forgot it.
10:20 - Met Eliz. @ F22 site to get generator. Calibrated YSI in meantime.
10:45 - Begin purging AP4518
11:55 - Collect Sample 09FROBWA-16 from AP4518

May 29, 2009
1220 - Begin setup @ 4518
1235 - Purge AP4352 for second time. Well was recharged almost
1256 - Collect Sample 09FROBWA-17 from AP4344.
1325 - Go to well AP3745 in hopes of collecting a 3rd quick sample in time for our 1600 SGS drop off time. Re-measured total depth of well to find our Jan, 08 depth too shallow by several feet. The resulting increase in purge volume makes me reconsider collecting a 3rd sample. ~~recall~~
1345 - Call Haydar to tell him we will not be able to collect a 3rd sample and get to SGS before 1600. Haydar said he would like a 3rd well sampled today, and that he would deal with Forest @ SGS.

(17) 17261-OUB
JPT

May 29, 2009
1350 - Begin setup at AP 3981
1501 - Collect sample 09FROBWA-18 from AP3981
1525 Collect rinsate 09FROBWA-19
1530 - Leave Disposal facility
1540 - Arrive at Ft Rich entrance to give cooler ~~#34~~ to Haydar
1545 - Hand off cooler to Haydar
1550 - Leave to POL Dewatering Station
1600-1610 - Dispose of IDW. Notice break in housing of pump reel. Call TTT to see if we could get an exchange.
1645 - Replace pump at TTT with 155' foot reel for monday. Will return Tues. Am for repaired longer reel
1700 - Back @ S+W.
End of 5/29/09

17261-OUB (18)

June 1, 2009
Weather - 50-65°F, Clear
Sampling Personnel: Joe Thomas - Robert MacNaughten
PPE - Nitrile gloves, steel toe boots, safety glasses
Sampling equipment: DTW meter, YSI 556, Hach turbidimeter, Grundfos 155' pump, Honda generator

Samples Collected - cooler #35
09FROBWA-20 Trip Blank (1200)
09FROBWA-21 AP3984 (1250)
09FROBWA-22 AP3984 dup. (1252)
09FROBWA-23 AP3745 MS/MSD (1403)
09FROBWA-24 AP4011 (1548)
09FROBWA-25 Rinsate (1610)

IDW - Drum OUB-4
AP4352 - 3.5 gal
AP ~~4352~~ 3984 - 5.1 gal
AP3745 - 7 gal
AP ~~4352~~ 3983 - 3.5 gal
AP4011 - 16.5 gal
Decon - 8 gal.

17261-OUB
JPT

June 1, 2009

8:~~05~~ 10 - Leave S+W office

8:35 - Enter Ft Richardson

8:47 - Check in w/Range control. Delayed response

8:58 - Check DTW @ well AP4352
Purge ~3.5 gal from AP4357 with bailer (3rd trip)

9:10 - Calibrate YSI + Set up @ AP3983. At 0.1 L/min, well column drew down more than 1/4 of height, ~~this was~~ within approximately 1st quarter volume. Apparently, very little recharge. Lowered pump to nearly bottom of well casing and pumped dry. Had to bail last 1/2' from bottom.

10:20 - Began setting up @ AP3984 thinking it may purge dry since it did last sampling event. Drawdown was greater than 4", but did not purge dry. Collected dup from AP3984
09FROBWA-21
09FROBWA-22

17261-OUB
JPT
June 1, 2009

13:22 - Began setup @ AP3745
Replaced tubing because it was too short.

14:03 - Collect primary and MS/MSD sample set from AP3745

14:20 - Setup @ AP4011.

15:48 - Collect sample 09FROBWA-24 from AP4011

16:10 - Collect rinsate sample 09FROBWA-25

16:24 - Measure DTW at AP3983
Has only recharged 26% (in ~~6~~ hours 20 min)

16:30 - Leave disposal area

16:44 - Leave poleline Rd.

16:52-17:05 - POL Dewatering Station.
Dave Britch has not come by to empty drums. Now 8 drums at least mostly full.

17:32 - Back @ S+W

End of June 1, 2009

(21) 17261-OU5

JPT

June 2, 2009

Weather: 55°-70°F, Clear

Sampling personnel: Joe Thomas and Robert MacNaughten

PPE: Nitrile gloves, steel toe boots, safety glasses

Sampling equipment: DTW meter, YSI 556, Hach turbidimeter, Grundfos pump, Honda Generator

Samples Collected: Cooler #36

09FROBWA-26 Trip blank (900)
09FROBWA-27 AP3744 (955) MS/MSD
09FROBWA-28 AP3989 (1145)
09FROBWA-29 AP3747 (1355)
09FROBWA-30 AP4519 (1610)
09FROBWA-31 AP4519 duplicate (1615)
09FROBWA-32 Rinsate (1630)

IDW - Drum ~~0000~~ OUE2

AP3744 - 9 gal, AP3983 2.5 gal
AP3989 - 2.1 gal
AP3747 - 3.2 gal
AP4519 - 4.7
Recon ~~gal~~ 4.5 gal
Decon 4.5 gal — Drum 762-1

17261-OU5

(22)

JPT

June 2, 2009

755 - Leave S to W

800 - Drop off cooler #35 @ SGS

910 - Swap 155' Grundfos pump with 300' pump.

952 - Arrive @ AP3744, calibrate YSI. 955 - Collect sample.

1020 - Measure DTW @ AP3983. DTW 26.76'. Approaching 80% recharge, but not fully there.

1025 - Call TTT to let them know that we left the cooling shroud on the pump we returned. Asked if OK to sample 2" wells without the shroud. He said follow flow, it would likely be OK. Pump will trip if starts to overheat

1030 - Set up @ 2" well AP3989.

1145 - Collect sample 09FROBWA-28 from AP3989

1155 - Check DTW @ AP3983.

1201 finish breakdown AP3989

1207 - Arrive AP3747.

1355 - Collect Sample 09FROBWA-29 from AP3747.

(23) 17261-00B JPT

June 2, 2009

1430 - begin setup @ AP4519.

1610 - Collect sample 09FROBWA-30 from AP4519 and dup ... -31 @ 1615

1630 - Collect rinsate sample 09FROBWA-32

1640 - Measure DTW @ AP3983 and bail dry for second time.

1652 - Leave disposal area

1702 - Leave Polelsie Rd

1712 - 1720 - IDW Dropoff. All purgewater and 4.5 gal decon water placed in Drum OUE 2. 4.5 gals of decon placed in Drum 762-1. Each of the 8 drums at IDW facility are nearly full.

1800 - Back @ S+W

End of 6/2/09



17261-00B JPT (24)

June 3, 2009

Weather - 55-70°F, pt cloudy

Sampling personnel: Joe Thomas and Robert MacNaughton

PPE: Nitrile gloves, safety glasses, steel toe boots

Sampling equipment. 2 x DTW meters, 2 x YSI 556, 1 x Hach turbidimeter, 2 x Grundfos pump, 2 x Honda generator

Samples Collected - Cooler #37

09FROBWA-33 Trip blank (1200)
09FROBWA-34 AP-4353 (1205)
09FROBWA-35 AP4353 dup (1207)
09FROBWA-36 AP3985 (1210)
09FROBWA-37 AP4550 (1439)
09FROBWA-38 AP4017 (1654)
09FROBWA-39 AP4525 (1740)
09FROBWA-40 AP4551 (1852)
09FROBWA-41 AP3983 (1934)
09FROBWA-42 AP4352 (1955)

IDW - Drum OUB-5 09FROBWA-43 = Rinsate (1920)

AP4353 - 9 gals., AP4525 - 0.4 gal
AP3985 - 11 gal, AP4551 4.1 gal
AP4550 4.6 gal
AP4017 22 gal, Decon 9.5 gal
→ Drum OUB 6 Drum OUB 7

17261-OUB
JPT

June 3, 2009

815 - Leave STW

822 - Drop off cooler #360@565

825 - Stop @ TTT for well caps and misc. parts

910 - Enter Poker Flat Rd.

920 - Add 4" well cap to AP3749

930 - Check DTW @ AP4352. Not yet recharged to 80%.

935 - Calibrate both TTT's and STW's YSI's. Brought second low-flow pump setup to purge wells simultaneously.

950-1045 Setup wells AP4353 and AP3985. AP4353 was purged at ~0.4-0.5 L/min and needed almost no adjustment. Drawdown was stabilized at approx. 2', but with a 36.8' water column, and 10' screen interval, we thought this was acceptable. Well AP3985 was purged and sampled with Shannon-Wilson's pump. Not as easy to control, but worked fine

June 3, 2009 JPT

for this well at this rate.

1205 - Collected sample 09FROBWA-34 from AP4353. Collected duplicate ... -35 from same well.

1210 - Collected sample ~~AP~~ 09FROBWA-36 from AP3985.

~1100-1200 - Haydar Turker came to site to conduct a field audit of field representatives Joe Thomas and Robert MacNaughton.

1300-1340 setup both pumps @ AP4550 and AP4551. No problems with AP4550, and collected sample 09FROBWA-37 from that well at 1439.

1340-1350 - purged ~1 gal of low turbidity water at ~0.25 l/min from AP4551 until it went dry. Only 2.78' of water column. called Haydar to see how to handle this. Haydar

17261-008
JPT

June 3, 2009
recommended bailing it dry 2 more times and then collecting sample. Robert attempted to bale dry, but recharging rather quickly. Ended up dropping the pump back into well and at a lower rate (~0.1 l./min) was able to collect a sample with pump.

1500 - Begin setup at AP4017. Like well AP4353, had drawdown greater than 4" (approx 3'), but with water column of 32.73', we felt it was justifiable to increase pump rate.

1654 collected sample 09FROBWA-38 from AP4017. Used Shannon and Wilsons pump.

1700 - 1800 - Attempted to purge AP4525 dry with bailer because insufficient water column to sample with pump (0.65').

17261-008

June 3, 2009
May/June Field Equipment
serial #s
YSI (TTT) 06G1940 AG
Hach Turbidimeter (TTT)
06030 C015652
DTW Instrument (TTT) 200 ft. x5/8 WLM
WLM-08.05 1908 TW
Solinist Interface Water Model
#101898
Grundfos Control Box
PN0094A06 or H0405130076
Grundfos Pump w/ stainless cooling shroud
6220003 - 300'

S+W equipment used on 6/3/09
YSI 04D06670 AC
Grundfos pump A1A106003 P1 08410013
Control Box 9948
Heron Instruments dipper-T 50'
DTW meter (WLI#9 09445)

Calibration Standards
Hanna 240 mV ORP Lot 0543 exp. 3/2013
Aakton 7.00 pH Lot 2604460 Exp. 4/08
10.00 pH Can't read Lot# Exp 09/09
4.00 pH Lot 2705332 Exp. May 09
Conduct 1413 µS@25° Lot 2810678 Exp 10/09

17261-OUB

JPT

June 3, 2009

Called Haydar to see how to handle well with volume of 0.1 gal. He said bail 3 well volumes then collect sample. Had to use 2 bailers because silt in bottom of well was preventing ball in first bailer from seating well and as a result would leak out its contents before we could haul bailer to surface.

1740 - Collected sample 09FROBWA-39 from well AP4525.

1800-1828 - Re-setup at AP4551 with S+W Grundfos. As stated on p. 27, ~~was~~ able to collect sample at low flow rate. Due to bailing earlier, water had higher turbidity.

1852 - Collected sample 09FROBWA-40 from AP4551. Deconned equipment then collected rinsate sample

June 3, 2009

1920 - Collected rinsate sample 09FROBWA-43. Skipped samples ... -41 + -42 for the two remaining wells that we were about to collect samples from with disposible bailers.

AP3983 - Collected sample 09FROBWA-41 from AP3983. ~~As Baited~~ Pumped this well dry @1010 on 6/1/09, and did not recharge to 80% until around 1600 on 6/2/09 (~28 hours). Purged dry w/ bailer at that time. Collected. Sample after purging 2x because such slow recharge. As ~~Recorded~~ ~~Collected~~ parameters with YSI, but DO did not seem to be working correctly. Seemed too low to be accurate.

1955 - Collected sample 09FROBWA-42 from AP4552 after bailing it dry 3 times.

17261-OUB
JPT

(31)

June 3, 2009

2005 – Leave Poleline Rd. Disposal Area

2025-2040 – Dispose of IDW at POL de-watering facility. Filled Drum OUB-6 and partially filled Drum OUB-7. Had to borrow 2 more drums since ENSR still has not emptied drums

2045-2120 – Lunch break.

2148 - Back at S&W office. re-ice coolers.

End of 6/3/09, and Spring 2009 Sampling event

① SIS 17261-OUB

Serial Numbers

Balder Grundfos Controller *
→ H0307210006
Grundfos Pump *
→ A1A1060038P10917 0008 (300')
(Oct 2-7, 2009)
→ (155')
Hach Turbidimeter
→ 040300035037
DTW-Solinist (200')
→ 26821
Honda EU2000i Generator *
→ EAAJ1206054
YSI 556 MPS *
→ 04D5945AB
Product Interface Probe *
→ no brand 3087
PID - Model 580B OVM (#4)
Thermo Environment Instrument
→ 580V-61501-332

*Indicates TT equipment, remainder is SAIC equipment

17261-OUB JCS ②

Sept 29, 2009

Weather - Overcast ~40°F
Sampling Personnel - Shayla Swedlund
Robert McNaughton
PPE - Nitrile gloves, steel toe boots, safety glasses
Sampling Equipment - DTW, PID

No samples collected

IDW - 14 gal drum used for Fmr Bldg 186 site

Sept 29, 2009

1355 - Radio into Range Control - entering Poulin Rd.

1408 - Well AP-3749
DTW = 22.18', PID = 1.3 ppm, no prod.

1421 - Well AP-4350
DTW = 149.59', PID = 22.1 ppm, no prod.

1437 - Well AP-4352
DTW - not measured, placed probe DTW/~~Bot~~ down well, no signal, brought up, probe was dry.

1445 - Well AP-4344.
DTW = 151.20', PID = 1.8 ppm, no prod

1501 - Well AP-4345
DTW = 157.20', PID = 2.1 ppm, no prod

1511 - Well AP-5246
DTW = 151.65, PID = 1.0 ppm, no prod.

1522 - Well AP-3748
DTW = 134.86, PID = 1.0, no prod

1531 - Well AP-3747
DTW = 27.58', PID = 2.0 ppm, no prod

1535 - Well AP-4019
DTW = 137.72', PID = 10.6 ppm, no prod

1546 - Well AP-3982
DTW = 28.10', PID = 1.1 ppm, no prod

Sept 29, 2009

1552 - Well AP-3744
DTW = 27.95', PID = 2.1 ppm, no prod.

1601 - Well AP-4525
DTW = 126.51', PID = 67.5 ppm, no prod.

1610 - Well AP-3989
DTW = 29.75, PID = 44.0 ppm, no prod.

1617 - Well AP-3983
DTW = 25.91', PID = 39.9 ppm; no prod

1627 - Well AP-4518
DTW = 27.10', PID = 1.0 ppm, no prod.

1635 - Leave site, lock up.

1642 - Check out w/ Range Control
→ drop off IDW, + head back for Fmr Bldg 186

to office

1715 - At office demob

End Sept 29, 2009

⑤SIS 17261-OUB

Oct 1, 2009

Weather - Sunny ~ 35-40°F

~~0800~~ Sampling Personell - Shayla Swedlund + Robert McNaughton

PPE - Nitrile gloves, Safety toe boots, safety glasses

Sampling equipment - PID, YSI, DTW

Samples Collected - none

IDW -

- AP-4551 - 1.5 gal
- AP-3983 - 2.6 gal
- Decon (for OUB + Fmr Bldg 786) - 14 gal

17261-OUB SIS ⑥

Oct 1, 2009

0800 - At office - mob - ~~calibrate~~ 38 talk to Hayden

1000 - At FT Rich - finish sampling Fmr Bldg 786 wells.

1130 - check out w/ Watterson - head to OUB/Pole Line Rd.

1140 - Check in w/ Range Control via radio.

1151 - On site - continue w/ DTW/screening - have quick lunch

1211 - Well AP-4011
DTW = 122.11', no Prod
→ note: PID died in field - looks like it was plugged in since Tuesday - not charged - decide to continue w/ DTW measurements + make note to do PID readings when collect samples

1221 - Well AP-3145 (3145)
DTW = 23.45', no prod,

1234 - Well AP-4551
DTW = 95.90, no prod.

1226 - Well AP-4550
DTW = 26.99, no prod.

1232 - Well AP-3985
DTW = 27.26', no prod.

① JAS

Oct 1, 2009

1236 - Well AP 3981
DTW = 25.12, no product
1239 - Well AP 4354
DTW = 13.61, no product
1244 - Well AP-4353
DTW = 33.30, no product
1246 - AP-4519
DTW = 27.07, no product
1249 - Well AP-4017
DTW = 66.17, no product
1259 - Well AP-3984
DTW = 29.43; no prod.
1310 - On Well AP-3983 - purge
1333 → Well AP-3983 purge dry
aft 2.6 gal
1350 - On Well AP-4551 - purge
1450 - Bailer accidently gets dropped
into well - try fishing it out
1455 - Get bailer out - continue
purging
1520 - Finish w/ Well AP-4551 -
did not purge dry as had in
past - did not have containers
w/ as our plan was to redo
all DTW @ 786-OUB; @ end purge
dry wells.

Oct 1, 2009

526 - leave OUB, lock up
533 - Leave Pole Line Rd - check out
w/ Range Control - head to POL
540 - At POL Dewatering Facility NO
drop off IDW
1555 - Leave POL Dewat. Facility
and lockup; leave FT Rich
and return to office
1620 - At office, debrief

End Oct 1, 2009

@ SIS 17261-OUB

Oct 2, 2009

Weather – Clear - 30° to 45°F
Sampling Personal - Shayla Swedlund and Robert McNaughton
Sample Equipment - YSI, turbidimeter Grundfos, PID, Generator.
PPE - Nitrile gloves, steel toe boots, safety glasses

Samples Collected
09FROBWA01 - Trip Blank 0800
09FROBWA02 - AP-3749 — 1050
09FROBWA03 - AP-4350 - 1303
09FROBWA04 - AP-4344 - 1515
09FROBWA05 - Rinsate - 1600
09FROBWA06 - AP-4551 - 1635

IDW
- AP 3749 - 3.6 gal
- AP-4350 - 14.5 gal
- AP-4344 - 8.3 gal
- AP-4551 - 0.4 gal
- AP-3983 - 1.8 gal
- Decon H_2O 14 gal

17261-OUB SW (10)

Oct 2, 2009
0730 - At office, mob, calibrate PID & YSI
0850 - At TTT to pick up more tubing, bailers, filters
0920 - At FT Rich - radio in to Range Control.
0930 - On Well AP-3749 - surger
1050 - Collect Sample 09FROBWA02 from well AP3749
1115 - On Well AP-4350
1303 - Collect Sample 09FROBWA03 from well AP-4350
1347 - Off well AP-4350 - onto OUB gate
1515 - Collect Sample 09FROBWA04 from well AP-4344
1600 - Collect Rinsate Sample 09FROBWA05
1608 - Leave well AP-4344 area
1612 - On well AP-4551 - since it didn't purge dry like we expected, collected sample after 4 well vol.
1635 - Collect Sample 09FROBWA06 from well AP-4551
1648 off Well AP-4551

(11) 815 17261-55

Oct 2, 2009

1705 - Well AP-3983 purged dry
1055 - Well AP-3983 recovered - purge
1713 - Leave OUB - lock up
1722 - Check out w/ Range Control
1728 - At PDL Dewatering Facility to drop off IDW
1746 - Leave PDL Water Facility & lock up - Leave FT Rich
1815 - At office, demob

End Oct 2, 2009

17261-

OSL (12)

Oct. 5, 2009 (Monday)

0730 Start mobilization at office. Calibrate YSI 556. Change out Conductivity solution.

Weather: rain, temp. around 90°F
Personnel: Andrew Lee and Robert MacNaughton
Equipment: YSI 556, turbidimeter (Hach), Grundfos, generator
PPE: nitrile gloves, steel toe boots, safety glasses

Samples collected:

09FROBWA07	- Trip Blank	0800
09FROBWA08	- AP-4345	11:20
09FROBWA09	AP-5246	13:15
09FROBWA10	AP-3748	15:30
09FROBWA11	Rinsate	15:57

IDW

AP-4345	7.5 gal
AP-5246	5.2 gal
AP-3748	9.5 gal
Decon.	13 gal
AP-3983	2.5 gal

Oct. 5, 2009 (continued)

655 Arrive at Ft. Rich

901 at 724 Bldg to get swap out batteries for range control radios

922 Call into Range Control

935 On well AP-~~5246~~ 4345 ASL

1120 Collected sample 09FROBWA08

1150 off well AP-4345

1153 On well AP-5246

1315 collected sample 09FROBWA09

1346 off well

1350 On well AP-3748

1530 collected sample 09FROBWA09

1550 done with AP-3748

1557 collected Rinsate sample

1613 On well AP-3983
bailed dry 3rd time. Andrew noticed that 80% DTW was calculated wrong — Well had not recovered 80% before it was bailed dry the second time.

1645 off well AP-3983

1700 Call range control on radio to check out of OUB Poleline Road

1707 At POL Dewatering facility to drop off IDW
Previous IDW has been removed
Start new drum. Don't have new waste

5 2009 continued
tracking log with us. Labeled with blue "Non-regulated waste" sticker will add tracking log tomorrow. Put in a temp one in ziplock on drum.

1734 Leave POL facility
Ford 350 truck has low front left tire -

1803 At Garrett's Tesoro Add air to tires, add gas to tank for grundfos pump.

1816 Arrive Back at office - demob

End of Oct 5, 2009
Andrew Lee

(15) ASL 17261-

Oct 6 2009

735 At office, mobilize
Calibrate YSI556. Change out pH solutions. DO calibration was running high before recalibration (117% above saturation)

Weather: clear skies, about 30°F in morning, expected high today mid 40s °F
Personnel: Andrew Lee & Robert MacNaughton
Equipment: YSI556, turbidimeter, grundfos pump, generator

Samples collected:

09FROBWA12	-	Trip Blank 0800
09FROBWA13	-	AP3747 @ 1200
09FROBWA14		AP4019 @ 1340
09FROBWA15		AP-4011 @ 1550
09FROBWA16		ransate @ 1615

IDW

well AP3747	6 gal.
well AP4019	13 gal
well AP-4011	16 gal
decon. water	12 gal

17261- ASL (16)

Oct. 6, 2009

[illegible] arrive at Pt. Rich yard
915 Call into Range Control at Pole Line Road
932 On well AP-3747. large draw down
1200 Collected 09FROBWA13
1226 On well AP-4019
1340 Collected 09FROBWA14 from AP-4019
[illegible] off well AP-4019
1405 On well AP-4011
1550 Collected Sample 09FROBWA15 from
1615 Collected Rinsate sample 09FROBWA16
1636 Radioed Range Control to inform them we are leaving Pole Line Road OUB.
1642 Arrive at POL Dewatering facility to dispose of purge & decon water
1658 leave POL facility. Return to office to demob, (Robert) Andrew dropped off at home @ 17:25.

end of 10/6/09

Andrew Lee

(17) SLS 17261-OUB

Oct 7, 2009

Weather - Rain ~40°F

Sampling Personnel - Shayla Swedlund
Robert McNaughton

Equipment - Grundfos, YSI, turbidimeter, Generator, DTW Inst.

Samples Collected
09FROBWA17 - Trip Blank - 1015
09FROBWA18 AP-4525 - 1140
09FROBWA19 - AP-3989 - 1345
09FROBWA20 - AP4518 - 1530 - MS/MSD
09FROBWA21 - Rinsate - 1600
09FROBWA22 - AP-3983 - 1640

IDW
- 5 gal - AP-4525
- 3.4 gal - AP-3989
- 5.2 gal - AP 4518
- 1.0 gal - AP-3983
- 14 gal - Decon H2O

17261-OUB SLS (18)

Oct 7, 2009
0730 - At office, calibrate PID, YSI
- realize Big Red tire is flat
→ A tires into studs
0930 - Leave office for Ft Rich
1000 - At Ft Rich - check in w/ range control
1013 - On Well AP-4525 - purged + sampled using disp. bailer as minimal water column
1140 - Collect Sample 09FROBWA18 from Well AP-4525
1146 - Off well AP-4525, onto Well AP-3989
1345 - Collect Sample from AP-3989
→ could not get steady flow - at end, could only get flow through filled + flow would stop - since we tried for 45 minutes to get steady flow + DO to stabilize - collected sample 09FROBWA19 - well did not purge dry
1413 - Off Well AP-3989 + onto Well AP-4518

(19) SLS 17261-OUB

Oct 7, 2009

1530 - Collect Sample 09FROBWA20 from well AP-4518
1600 - Collect Rinsate Sample 09FROBWA21
1611 - Off well AP-4518, on well AP3983
1640 - Collect Sample 09FROBWA22 from well AP3983
1700 - Leave OUB - lock up
1707 - Clear out w/ Rare control -
1714 - @ POL Dewat Facility to drop off IDW
1730 - Leave POL Dewat. Facility - lock up - Leave Ft Rich
1800 - At office, demob

End Oct 7, 2009

17261-OUB (20)

Oct 8, 2009

Weather - Rain ~40°F
Personnel - Shayla Swedlund + Robert McNaughton
Equipment - Grundfos (#2), Generator, YSI, Turbidimeter, DTW Instrument, PID
PPE - Nitrile, Steel toe Boots, safety glasses

Samples Collected

09FROBWA23 - TripBlank 1057
09FROBWA24 - AP-3745 1130
09FROBWA25 - AP-3745(Dup) 1135
09FROBWA26 - AP-4550 - 1300
09FROBWA27 - AP-3982 - 1452
09FROBWA28 - AP-3744 1600
09FROBWA29 - Rinsate 1620

IDW

- AP-3745 - 7.1 gal
- AP-4550 - 5.5 gal
- AP-3982 - 8.1 gal
- AP 3744 - 6.8 gal
- IDecon H2O - 14 gal

Oct 8, 2009

0745 - At work — mob, calibrate YSI PID; ~~realize~~ SS 10/8 clean Grundfos pump - realize teflon piece is worn + need to be replaced -

0940 - At TT to replace Grndfos w/ new one.

0945 - Leave TT + head to FTRich.

1012 - Check in w/ Range Control + head to site

1030 - On site - start purging well AP-3745 ; PID = 0.5 ppm

1130 - Collect Sample 09FROBWA24 from well AP-3745

1135 - Collect Sample 09FROBWA25 (duplicate) from well AP-3745

1159 - On well AP-4550 — could not sustain min drawdown + flow - kept @ lowest rate while maintaining flow, but sig drawdown ; PID = 1.5 ppm

1300 - Collect Sample 09FROBWA26 from well ~~AP-4550~~ SS 10/8 AP-4550

1334 - On well AP-3982

Oct 8, 2009

1452 - Collect Sample 09FROBWA27 from well AP-3982

1514 - Off well AP-3982 - on to well AP-3744

1600 - Collect Sample 09FROBWA28 from well AP-3744

1620 - Collect Rinsate Sample 09FROBWA29

1630 - Off well AP-344 - leave OUB + Lock up.

1642 - Check out w/ Range Control

1650 - ~~At~~ ~~FCL~~ Dewatering Facility drop off IDW.

1704 - Leave for Dewatering Facility Lock up ; leave FTRich.

1743 - Back at office - debrief.

End Oct 8, 2009

Shaffer Smith

Oct 9, 2009

Weather - Rain ~ 40°F

Sampling Personnel - Shayla Sweed (me) + Robert McNaught-Davis

Sampling PPE - steel toe, nitrile, safety glasses

Sampling Equipment - GrundFos(2) Generator, YSI, Turbidimeter, DTW Instrument, PID

Samples Collected

- 09FROBWA30 - Trip Blank - 1015
- 09FROBWA31 - AP-4353 - 1125
- 09FROBWA32 - AP4353 (Duplicate) - 1130
- 09FROBWA33 - AP-4354 - 1210
- 09FROBWA34 - AP 3981 1345 (MS)(MSD)
- 09FROBWA35 - AP-3985 - 1530
- 09FROBWA36 - AP 4519 - 1718

IDW

- AP-4353 - 5.2 gal
- AP-4354 - 1.2 gal
- AP-3981 - 11.1 gal
- AP-3985 - 10.0 gal
- AP-4519 - 5.0 gal
- Decon H20 - 13 gal

09FROBWA37 → AP 4519 (DUP) 1720

09FROBWA38 → Rinsate - 1745

Oct 9, 2009

0745 - At office, mob, calibrate PID, YSI, check in w/ Hayden

0845 - Leave office for Ft Rich.

0921 - Radio in to Range Control to enter Poleline Road.

0940 - On site - open gate + lock behind me - start on well AP-4353

1125 - Collect Sample 09FROBWA31 from well AP-4353

1130 - Collect Sample 09FROBWA32 (Duplicate) well AP-4353

1145 - Off well AP-4353, on well AP4354

1210 - Collect Sample 09FROBWA33 from well AP-4354 -

→ NOTE: Sampled using bailer (disposable) due to short water column - purged more than 4 well volumes due to full bailers + great recharge.

→ purged 3 Bailers

1220 - Call TTI; noted cable, (yellow) exposed ~35' from pump - TTI (David) recognized not caused by S+W; when bring in - tell them; can use, but when in H20 - Place elect. tape.

Oct 9, 2009

1217 - On well AP-3981
1345 - Collect Sample 09FROBWA34 & MS/MSD from well AP-3981
1411 - Off well AP-3981; onto well AP-3985
1530 - Collect Sample 09FROBWA35 from well AP-3985
1552 - Off well AP-3985; onto well AP-4519 → well AP-4519 - Sig drawdown, but could not stabilize rate any further maintain flow
1718 - Collect Sample 09FROBWA36 from well AP-4519
~~17~~ SS 10/9
1720 - Collect Duplicate - Sample 09FROBWA37 from well AP-4519
~~1554 - Off well AP-3985 & SS 4519 on well AP & SS 10/9~~
1745 - Collect ~~well AP SS 10/9~~ Rinsate Sample 09FROBWA38
1755 - Off well AP-4519 area, leave OUB site & lock up.
1810 - At POC Dewatering Facility to drop off IDW
1830 - Leave POC Dewat. Facility - Leave FT Rich to office to debrief

End Oct 9, 2009

Shayla S

Oct 12, 2009

Weather - Clear

Sampling Personnel - Shayla Swedlund & Robert McNaughton
Sampling PPE - Steel toe boots, nitrile gloves, safety glasses.
Sampling equipment - Grundfos (2) Generator, YSI, Turbidimeter DTW instrument, PID

Samples Collected
09FROBWA39 - Trip Blank - 1000
09FROBWA40 - AP-4017 - 1143
09FROBWA41 - AP-3984 - 1408
09FROBWA 42 - Rinsate - 1426

IDW
- AP-4017 - 16.1 gal
- AP-3984 - 6.7 gal
- Decon - 14 gal

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Oct 12, 2009

0745 - At office, mob, calibrate YSI, PID
0815 - Leave office - go to SGS to pick up an additional metals container + labels
0830 - Fill up at Garrets Tesoro
0930 - Check in w/ Range Control.
0940 - At OUB on well AP-4017
1143 - Collect Sample 09FROBWA40 from well AP-4017
1203 - OFF well AP-4017, on well AP3984 - well AP-3984 major surger
1300 - Hayden Tucker arrives onsite to inspect/audit field activities
1320 - Hayden offsite
1408 - After many of surges, collect Sample 09FROBWA41 from well AP-3984
1426 - Collect Rinsate Sample 09FROBWA42
1445 - Leave OUB - lockup.
1452 - Check out w/ Range Control. → go pull tubing from OUE wells.

17261-OUB 811 (28)

Oct 12, 2009

556 - At POL Dewatering Facility to drop off IDW
611 - Leave POL Dewatering Facility - lockup. - Leave ft Rich
1649 - At TTP - drop off equipment

End Oct 12, 2009

Appendix B
Chemical Data Quality Review

Appendix B1
Data Quality Review

Fort Richardson Operable Unit B Groundwater Monitoring Spring 2009 Chemical Data Quality Review

Introduction

This chemical data quality review (CDQR) assesses the quality of analytical results for water samples collected as part of ongoing groundwater monitoring at Operable Unit B (OUB), Fort Richardson, Alaska. We used data quality objectives (DQOs) and criteria presented in CH2M HILL's November 2002 Quality Assurance Program Plan (QAPP), as well as internal laboratory quality-control limits for this assessment.

This report presents a summary of data-quality issues and anomalies identified in our review that may affect the use of the results for ongoing groundwater monitoring.

Analytical Results

We collected a total of 26 project samples and three field-duplicate samples from 26 wells within OUB. We also collected one equipment-blank sample (EB) per area per day and delivered trip-blank samples (TBs) with coolers containing samples for analysis of volatile organic compounds (VOCs). We hand-delivered the samples to the SGS Environmental Services, Inc. (SGS) Anchorage laboratory in seven sample-delivery groups (SDGs): SGS work orders 1092236, 1092246, 1092275, 1092302, 1092330, 1092382, and 1092416. The samples were analyzed for the analytes listed in Table 1 by the methods shown:

Table 1
OUE Groundwater Analyses

Parameter	Method	Laboratory
Volatile Organic Compounds (VOC)	SW8260B	SGS Anchorage
Dissolved metals (aluminum, arsenic, iron, manganese)	SW6020	SGS Anchorage
Chloride, nitrite, nitrate, and sulfate	SW9056	SGS Anchorage
Dissolved methane, ethane, and ethene	RSK 175	Columbia Analytical Services, Simi Valley, California

SGS transferred samples for methane analysis to Columbia Analytical Services (CAS) by overnight carrier.

As part of this CDQR, we reviewed: (1) sample handling information, including chain-of-custody (COC) documentation, holding-time compliance, and sample-receipt forms; (2) calibration information presented in the laboratory case narratives; (3) analytical sensitivity, including comparison of practical quantitation limits (PQLs) to DQOs and examination of field-blank and method-blank results; (4) accuracy, as assessed by laboratory control sample (LCS)

and LCS duplicate (LCSD), matrix spike (MS) and MS duplicate (MSD), and surrogate recoveries; and (5) precision, as assessed by relative percent difference between LCS/LCSD, MS/MSD, and project sample/field duplicate results.

We validated analytical results, when affected by data-quality issues identified above, with data flags defined in the QAPP. We present the flagged results in Table 2; where multiple data flags were assigned for different data-quality issues, the most conservative flag was designated as the final data flag for that result.

The data flags used are defined below:

- J = Analyte was present but the reported value may not be accurate or precise (estimated).
- J+ = Analyte was present but the reported value may not be accurate or precise (biased high).
- J- = Analyte was present but the reported value may not be accurate or precise (biased low).
- R = The result was rejected as unusable due to analytical deficiencies.
- U = Analyte was not detected at the specified reporting limit.
- UJ = Analyte was not detected and the specified reporting limit may not be accurate or precise (estimated), or analyte was not detected and sample handling or QC failures may have resulted in a low bias (and thus the non-detect result).

Findings

We present a summary of our data-quality review below, and present flagged results in Table 2. The validated analytical results are in Appendix B2. We included the Alaska Department of Environmental Conservation laboratory data-review checklists for each SDG in Appendix B3.

Sample Handling

We reviewed sample-receipt forms and COC documentation as we received it from SGS. Holding-time compliance was assessed upon receipt of the Level II laboratory reports.

Sample Condition

Temperature blank and cooler temperatures were within the acceptable range (2 °C to 6 °C) for four of the seven SDGs. The temperature blank in SDG 1092246 was at 1.3 °C; no ice was observed in the samples, so results were unaffected. Methane, ethane, and ethene samples in SDGs 1092302 and 1092275 had elevated temperatures (8 °C) upon receipt at the CAS laboratory; these analytes may have been affected by the elevated temperature due to volatization, and are therefore flagged J- to indicate the potential low bias. PQLs are flagged UJ to indicate the non-detect result may be attributable to elevated temperature.

Chain of Custody

We did not place COC seals on coolers we hand-delivered to the Anchorage SGS laboratory, since samples were in our custody until delivery. Coolers sent to CAS were properly sealed. COC forms were completed and signed for each work order, and the correct analyses requested.

Holding Times

Holding-time criteria were met for each analysis in the seven SDGs.

Calibration

Several calibration anomalies were reported in the case narratives; with the exception of a high ICV recovery of vinyl chloride in SDG 1092416, the calibration anomalies did not have an effect on data quality or usability. For project samples in SDG 1092416, vinyl chloride should be considered biased high (J+) where detected.

For several SDGs, the case narratives noted manual integrations for one or more analytes due to forced peak stop/start; results are not likely to be affected by manual integration.

Analytical Sensitivity

PQLs were compared to the reporting-limit objectives in the QAPP, and blank samples were checked to determine if water samples were contaminated from laboratory practices, cross-contamination from other samples, or sampling equipment.

Practical Quantitation Limits

PQLs met the reporting limit objectives specified in the QAPP.

Method Blanks

Method blanks (MBs) were analyzed for every preparation/analysis batch. MB results were below method detection limits (MDLs) and PQLs.

Field Blanks

Trip blanks were transported in coolers containing VOC samples, equipment blanks were collected at the required frequency (one per area per day), and results were below MDLs, with the following exceptions.

Chloride, nitrate, sulfate, toluene, benzene, o-xylene, trichloroethene, and methane were detected in one or more equipment blanks (EBs). Nitrate results for samples *09FROBWA-06* and *09FROBWA-07* (SDG 1092246) were not five-fold greater than the concentration detected in the EB, and therefore may be attributable to contamination from sampling equipment (flagged U). The remaining analytes listed above were either not detected in corresponding project samples, or were at least five-fold greater than the EB concentrations, so results were unaffected.

Accuracy

We reviewed the analyte-recovery information for QC samples and surrogate spikes to assess the accuracy of the analyses. LCS/LCSDs were reported for VOCs; LCSs and MS/MSDs were reported for metals (with the exception of SDGs 1092236, 1092246, and 1092416 in which no MS/MSDs were reported); LCSs and undigested bench spikes and/or sample duplicates were

reported for chloride, nitrate, nitrite, and sulfate; and LCS/LCSDs and/or MS/MSDs were reported for methane, ethane, and ethene.

Laboratory Control Samples

LCS and LCSD analyte recoveries were within the laboratory control limits, with the exception of carbon tetrachloride (above laboratory control limits) in the LCSD for SDG 1092382. Carbon tetrachloride was not detected in corresponding project samples, so results were unaffected.

Matrix Spike Samples

Matrix spike samples provide information about the laboratory's ability to recover analytes from the actual sample matrix, thus providing a measure of matrix effects. We designated samples *09FROBWA-23* and *09FROBWA-27* for MS/MSD analysis (the project, or billable matrix spike and matrix spike duplicates [BMS/BMSDs]). The laboratory also analyzed internal MS/MSDs, spiking other samples in the QC batch (not necessarily our project samples). MS/MSD analyte recoveries were within laboratory control limits, with the following exceptions. In SDG 1092382, carbon tetrachloride was recovered above the laboratory control limits in the BMS and MS and sulfate was recovered below laboratory control limits in the MS. Carbon tetrachloride was not detected in corresponding project samples, and the sulfate MS original was not in our project-sample set, so results were unaffected.

Surrogates

Surrogates were added to all project and QC samples for VOC analysis. Surrogate recoveries were within laboratory control limits.

Precision

We assessed precision by calculating relative percent difference (RPD; the difference between the original and duplicate results divided by the mean of the two) for LCS/LCSD, MS/MSD, and project-sample/field-duplicate pairs. RPDs were only calculated where analytes were detected above PQLs.

The LCS/LCSD RPD for chloromethane was above the laboratory QC limit; chloromethane was not detected in corresponding project samples, so results were unaffected.

OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively. RPDs were above the VOC data-quality objective of 15% for carbon tetrachloride and tetrachloroethene (PCE) in *09FROBWA-21/09FROBWA-22,* and 1,1-dichloroethene and trans-1,2-dichloroethene in *09FROBWA-30/09FROBWA-31*. The analytes listed above are considered estimates in the corresponding field-duplicate pairs, and are flagged J.

In SDGs 1092236, 1092246, and 1092416, the laboratory did not report duplicate or MS/MSD information for metals; in these cases, we were unable to evaluate the analytical precision of the metal results. The field-duplicate RPDs indicated adquate overall precision for metals, so these results were not qualified as estimates.

Overall Assessment

To conclude our data review, we evaluated whether the quality of the analytical results was sufficient for the purposes of the project and whether data completeness goals were achieved.

No data were rejected as unusable, and completeness objectives were met. The data are accurate, precise, and representative, as qualified by the following data flags resulting from the QC anomalies described above.

We summarize the findings of our data-quality review below:

1. Methane, ethane, and ethene results are qualified as biased low (flagged J- or UJ) for SDGs 1092302 and 1092275 due to elevated temperature.
2. Vinyl chloride results should be considered biased high (flagged J+) for samples in SDG 1092416 due to ICV-recovery failure.
3. Nitrate should be considered not-detected (flagged U) for samples *09FROBWA-06* and *09FROBWA-07* (SDG 1092246), due to the presence of the analyte in the equipment-blank.
4. Results for several VOC analytes (see above) should be considered estimates (flagged J) for the field-duplicate pairs in which their corresponding RPDs did not meet DQOs.

In general, the precision and accuracy of the data met the goals specified in the QAPP. However, due to the low bias associated with the elevated temperature for methane, ethane, and ethene samples in SDGs 1092302 and 1092275, it is not possible to exclude the possibility that there may have been measurable quantities of these analytes in project samples in these SDGs. Since the purpose of the RSK 175 analysis was to provide information about biodegradation processes, and because methane, ethane, and ethene results are not compared to cleanup levels, this QC failure affects the usability of the data only for assessing biodegradation. Overall, the data are of sufficient quality for the purposes of groundwater monitoring.

Table 2
Validation Flags

Sample ID	Method	Analyte	Final Result	PQL	Units	Final Flag	Reason
09FROBWA-10	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-10	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-10	RSK175	Methane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-11	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-11	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-11	RSK175	Methane	0.31	0.5	µg/L	J-	High temp.
09FROBWA-12	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-12	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-12	RSK175	Methane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-13	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-13	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-13	RSK175	Methane	4.8	0.5	µg/L	J-	High temp.
09FROBWA-16	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-16	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-16	RSK175	Methane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-17	RSK175	Ethane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-17	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-17	RSK175	Methane	ND	0.5	µg/L	UJ	High temp.
09FROBWA-18	RSK175	Ethane	0.21	0.5	µg/L	J-	High temp.
09FROBWA-18	RSK175	Ethene	ND	1.5	µg/L	UJ	High temp.
09FROBWA-18	RSK175	Methane	1700	0.5	µg/L	J-	High temp.
09FROBWA-37	SW8260B	Vinyl chloride	0.770	1.00	µg/L	J+	ICV failure
09FROBWA-38	SW8260B	Vinyl chloride	3.28	1.00	µg/L	J+	ICV failure
09FROBWA-06	9056A	Nitrate	ND	177	µg/L	U	EB detection
09FROBWA-07	9056A	Nitrate	ND	100	µg/L	U	EB detection
09FROBWA-21	SW8260B	Carbon tetrachloride	1.49	1.00	µg/L	J	FD RPD
09FROBWA-21	SW8260B	Tetrachloroethene	15.5	1.00	µg/L	J	FD RPD
09FROBWA-22	SW8260B	Carbon tetrachloride	1.75	1.00	µg/L	J	FD RPD
09FROBWA-22	SW8260B	Tetrachloroethene	18.3	1.00	µg/L	J	FD RPD
09FROBWA-30	SW8260B	1,1-Dichloroethene	5.33	1.00	µg/L	J	FD RPD
09FROBWA-31	SW8260B	1,1-Dichloroethene	6.75	1.00	µg/L	J	FD RPD
09FROBWA-30	SW8260B	trans-1,2-Dichloroethene	31.7	1.00	µg/L	J	FD RPD
09FROBWA-31	SW8260B	trans-1,2-Dichloroethene	37.4	1.00	µg/L	J	FD RPD

Notes:

PQL	practical quantitation limit
ND	analyte not detected above the PQL
µg/L	micrograms per liter
High temp.	low bias due to elevated sample temperature
ICV failure	analyte was recovered outside laboratory control limits in the ICV
EB detection	analyte was detected in the equipment blank (EB), and result was less than 5-times the EB concentration
FD RPD	analyte had an elevated relative percent difference (RPD) in the field duplicate (FD)
J	analyte was present but the reported value may not be accurate or precise (estimated)
J+	analyte was present but the reported value may not be accurate or precise (biased high)
J-	analyte was present but the reported value may not be accurate or precise (biased low)
UJ	analyte was not detected and the specified reporting limit may not be accurate or precise (estimated)

Fort Richardson Operable Unit B Groundwater Monitoring Fall 2009 Chemical Data Quality Review

Introduction

This chemical data quality review (CDQR) assesses the quality of analytical results for water samples collected as part of ongoing groundwater monitoring at Operable Unit B (OUB), Fort Richardson, Alaska. We used data quality objectives (DQOs) and criteria presented in CH2M HILL's November 2002 Quality Assurance Program Plan (QAPP), as well as internal laboratory quality-control limits for this assessment.

This report presents a summary of data-quality issues and anomalies identified in our review that may affect the use of the results for ongoing groundwater monitoring.

Analytical Results

We collected a total of 25 project samples and three field-duplicate samples from 25 wells within OUB. We also collected one equipment-blank sample (EB) per area per day and delivered trip-blank samples (TBs) with coolers containing samples for analysis of volatile organic compounds (VOCs). We hand-delivered the samples to the SGS Environmental Services, Inc. (SGS) Anchorage laboratory in seven sample-delivery groups (SDGs): SGS work orders 1095391, 1095418, 1095449, 1095470, 1095502, 1095529, and 1095547. The samples were analyzed for the analytes listed in Table 1 by the methods shown:

Table 1
OUE Groundwater Analyses

Parameter	Method	Laboratory
Volatile Organic Compounds (VOC)	SW8260B	SGS Anchorage
Dissolved metals (aluminum, arsenic, iron, manganese)	SW6020	SGS Anchorage
Chloride, nitrite, nitrate, and sulfate	9056A	SGS Anchorage
Dissolved methane, ethane, and ethene	RSK 175	Columbia Analytical Services, Simi Valley, California

In previous sampling events, chloride was incorrectly analyzed by EPA Method SW9056; our sampling and analysis plan specifies chloride be analyzed by EPA Method 300.0. With the approval of the Army Corps of Engineers project chemist, chloride was analyzed by EPA Method 9056A for this sampling event to maintain comparability of chloride data between sampling events.

SGS transferred samples for methane analysis to Columbia Analytical Services (CAS) in Simi Valley, California by overnight carrier.

As part of this CDQR, we reviewed: (1) sample handling information, including chain-of-custody (COC) documentation, holding-time compliance, and sample-receipt forms; (2) calibration information presented in the laboratory case narratives; (3) analytical sensitivity, including comparison of practical quantitation limits (PQLs) to DQOs and examination of field-blank and method-blank results; (4) accuracy, as assessed by laboratory control sample (LCS) and LCS duplicate (LCSD), matrix spike (MS) and MS duplicate (MSD), and surrogate recoveries; and (5) precision, as assessed by relative percent difference between LCS/LCSD, MS/MSD, and project sample/field duplicate results.

We validated analytical results, when affected by data-quality issues identified above, with data flags defined in the QAPP. We present the flagged results in Table 2; where multiple data flags were assigned for different data-quality issues, the most conservative flag was designated as the final data flag for that result.

The data flags used are defined below:

- J = Analyte was present but the reported value may not be accurate or precise (estimated).
- J+ = Analyte was present but the reported value may not be accurate or precise (biased high).
- J- = Analyte was present but the reported value may not be accurate or precise (biased low).
- R = The result was rejected as unusable due to analytical deficiencies.
- U = Analyte was not detected at the specified reporting limit.
- UJ = Analyte was not detected and the specified reporting limit may not be accurate or precise (estimated), or analyte was not detected and sample handling or QC failures may have resulted in a low bias (and thus the non-detect result).

Findings

We present a summary of our data-quality review below, and present flagged results in Table 2. The validated analytical results are in Appendix B2. We included the Alaska Department of Environmental Conservation laboratory data-review checklists for each SDG in Appendix B3.

Sample Handling

We reviewed sample-receipt forms and COC documentation as we received it from SGS. Holding-time compliance was assessed upon receipt of the Level II laboratory reports.

Sample Condition

Temperature blank and cooler temperatures were within the acceptable range (2 °C to 6 °C) for the seven SDGs, with the exception of a low cooler temperature for SDG 1095449. The cooler temperature was 1.6 °C for this SDG; the temperature blank was within range, and no ice was observed in the samples, so the results were unaffected.

Chain of Custody

We did not place COC seals on coolers we hand-delivered to the Anchorage SGS laboratory, since samples were in our custody until delivery. Coolers sent to CAS were properly sealed. COC forms were completed and signed for each work order. For SDG 1095391, we requested chloride be analyzed by EPA Method 300.0; on the remaining SDGs we requested EPA Method 9056A. As noted above, SGS analyzed chloride by Method 9056A for this sampling event (all seven SDGs).

Holding Times

Holding-time criteria were met for each analysis in the seven SDGs.

Calibration

Several calibration anomalies were reported in the case narratives. In general, most CCV recovery failures involved analytes recovered above the laboratory control limit and not detected in project samples. However, low CCV recovery of dichlorodifluoromethane biased the results for the analyte in eight project samples (see Table 2); for these samples, the non-detect result may be attributable to a low analytical bias, and the PQLs are therefore flagged UJ.

Analytical Sensitivity

PQLs were compared to the reporting-limit objectives in the QAPP, and blank samples were checked to determine if water samples were contaminated from laboratory practices, cross-contamination from other samples, or sampling equipment.

Practical Quantitation Limits

PQLs for carbon tetrachloride in sample *09FROBWA-13*; carbon tetrachloride and tetrachloroethene (PCE) in samples *09FROBWA-18*, *09FROBWA-19*, and *09FROBWA-22*; bromomethane and PCE in samples *09FROBWA-35* and *09FROBWA-36*; bromomethane in samples *09FROBWA-40* and *09FROBWA-41*; and vinyl chloride in sample *09FROBWA-41* were above corresponding ADEC Table C groundwater cleanup levels, as well as the reporting limits specified in the QAPP. We cannot determine if these analytes were present above cleanup levels and reporting limit objectives but below PQLs in these samples. PQLs for remaining analytes and samples were below ADEC Table C groundwater cleanup levels and/or reporting limit objectives from the QAPP.

Method Blanks

Method blanks (MBs) were analyzed for every preparation/analysis batch. PCE was detected at 3.25 µg/L and trichloroethene (TCE) was detected at 1.09 µg/L in one of the VOC method blanks in SDG 1095529. This method blank did not correspond to any of the project's groundwater samples, but did correspond to the equipment blank. PCE and TCE were detected in the EB at concentrations less than 5 times the MB concentration; EB results for these analytes are attrituble to laboratory-based contamination, and therefore PCE and TCE were not included in the assessment of the EB (i.e., EB detection of these analytes did not affect the results for these analytes in project samples). Remaining MB results were below method detection limits (MDLs) and PQLs.

Field Blanks

Trip blanks were transported in coolers containing VOC samples, equipment blanks were collected at the required frequency (one per area per day), and results were below MDLs, with the following exceptions.

Chloride; sulfate; 1,1,2,2-trichloroethane; chloroform; PCE; and TCE were detected above the MDL (and in some cases, the PQL) in one or more EBs. These EB detections affected the following results: chloroform in samples *09FROBWA-06*, *09FROBWA-13*, *09FROBWA-35*, *09FROBWA-36*, *09FROBWA-37*, *09FROBWA-40*, and *09FROBWA-41*; sulfate in sample *09FROBWA-34*; and 1,1,2,2-tetrachloroethane in sample *09FROBWA-33*. These results were less than 5 times the concentration in the corresponding EB (10 times for inorganic compounds), and are therefore attributable to equipment-based contamination; we flag these results U as not detected in Table 2. We raised the PQL to the concentration found in the sample where the analyte was detected above the PQL, in accordance with the Environmental Protection Agency's National Functional Guidelines.

The remaining analytes detected in EBs were either not detected in corresponding project samples, or were at least five-fold greater than the EB concentrations, so results were unaffected.

Accuracy

We reviewed the analyte-recovery information for QC samples and surrogate spikes to assess the accuracy of the analyses. The laboratory reported an LCS and LCSD, MS/MSD, or sample duplicate for each analysis, with the exception of the metals analysis for SDGs 1095418, 1095449, and 1095547. For these SDGs, we cannot assess the precision of the metals results (analytical precision is discussed in the following section).

Laboratory Control Samples

LCS and LCSD analyte recoveries were within the laboratory control limits, with the following exceptions. LCS/LCSD recovery of multiple analytes exceeded the upper laboratory control limit in one or more QC batches. With the exception of carbon tetrachloride in sample *09FROBWA-15*, these analytes were not detected in project samples, so results were unaffected. The carbon tetrachloride result for sample *09FROBWA-15* is flagged J+ to indicate the high bias. In one QC batch, LCS recovery of 1,1,2,2-tetrachloroethane was below the lower laboratory control limit; the result for this analyte in the corresponding sample (*09FROBWA-36*) is biased low, and flagged J- in Table 2. LCS/LCSD recoveries for remaining analytes were within laboratory control limits.

Matrix Spike Samples

Matrix spike samples provide information about the laboratory's ability to recover analytes from the actual sample matrix, thus providing a measure of matrix effects. We designated samples *09FROBWA-20* and *09FROBWA-34* for MS/MSD analysis (the project, or billable matrix spike and matrix spike duplicates [BMS/BMSDs]). The laboratory also analyzed internal "stand-in" MS/MSDs, spiking other samples in the QC batch (not necessarily our project samples).

Multiple analytes were recovered outside of laboratory control limits in one or more stand-in MS/MSDs; the spiked samples (originals) were not in our project sample set, so our results were unaffected. BMSD recovery of methane was above laboratory control limits in SDG 1095529; the methane result for the sample spiked for the BMS/BMSD (*09FROBWA-34*) is considered estimated (biased high) and is flagged J+.

Surrogates

Surrogates were added to all project and QC samples for VOC analysis. Surrogate recoveries were within laboratory control limits.

Precision

We assessed precision by calculating relative percent difference (RPD; the difference between the original and duplicate results divided by the mean of the two) for LCS/LCSD, MS/MSD, and project-sample/field-duplicate pairs. RPDs were only calculated where analytes were detected above PQLs.

RPDs for the following analytes were above the laboratory QC limit in one or more LCS/LCSD: acetone; 2-hexanone; 1,1,1-trichloroethane; carbon tetrachloride; and bromomethane. These analytes were not detected in project samples, so results were unaffected. RPDs for multiple analytes were above the laboratory QC limit in one or more stand-in MS/MSD; spiked samples (originals) were not in our project sample set, so our results were unaffected. BMS/BMSD RPDs were above laboratory QC limits for bromomethane and methane in SDG 1095529. Bromomethane was not detected in the spiked sample, but methane was detected above the PQL. The methane result for the sample spiked for the BMS/BMSD (*09FROBWA-34*) is already flagged J+ due to elevated BMSD recovery; the J+ flag applies, since it is a more conservative (and descriptive) data flag.

OUB field-duplicate pairs were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37* analyzed in SDGs 1095502 and 1095529. RPDs were within data-quality objectives, with the exception of 1,1,2,2-tetrachloroethane; cis-1,2-dichloroethene; and trichloroethene in *09FROBWA-36/09FROBWA-37*. These analytes are considered estimates in the corresponding field-duplicate pair, and are flagged J in Table 2 (1,1,2,2-tetrachloroethane was already flagged J- due to a low LCS recovery for sample *09FROBWA-36*; this flag is retained).

In SDGs 1095418, 1095449, and 1095547, the laboratory did not report duplicate or MS/MSD information for metals; in these cases, we were unable to evaluate the analytical precision of the metal results. The field-duplicate RPDs indicated adquate overall precision for metals, so these results were not qualified as estimates.

Overall Assessment

To conclude our data review, we evaluated whether the quality of the analytical results was sufficient for the purposes of the project and whether data completeness goals were achieved.

No data were rejected as unusable, and completeness objectives were met. The data are accurate, precise, and representative, as qualified by the following data flags resulting from the QC anomalies described above.

We summarize the findings of our data-quality review below:

1. Dichlorodifluoromethane PQLs for eight samples are flagged UJ (see Table 2) to indicate the non-detect results may be attributable to a low analytical bias indicated by low CCV recovery.
2. PQLs for multiple analytes (see above) exceeded ADEC Table C groundwater cleanup levels and the reporting limit objectives listed in the QAPP for one or more samples; we cannot determine if these analytes were present below PQLs but above cleanup levels and/or reporting limit objectives.
3. Chloroform results for seven samples and sulfate and 1,1,2,2-tetrachloroethane results for one sample each are flagged U (see Table 2) as not detected due to equipment blank detections.
4. The carbon tetrachloride result for sample *09FROBWA-15* is flagged J+ (biased high) and the 1,1,2,2-tetrachloroethane result for sample *09FROBWA-36* is flagged J- (biased low), due to LCS/LCSD recovery failures.
5. The methane result for sample *09FROBWA-34* is flagged J+ (biased high) due to an elevated BMSD recovery.
6. Results for 1,1,2,2-tetrachloroethane; cis-1,2-dichloroethene; and TCE are flagged J as estimates for samples *09FROBWA-36* and *09FROBWA-37* due to field-duplicate RPDs that exceeded DQOs (1,1,2,2-tetrachloroethane in *09FROBWA-36* remains flagged J- due to the LCS/LCSD recovery failure noted above).
7. The laboratory did not report sample-duplicate or MS/MSD results for the metals analysis in SDGs 1095418, 1095449, and 1095547; we cannot assess analytical precision for metals results for these SDGs, but field-duplicate results suggest overall precision is adequate for metals.

In general, the precision and accuracy of the data met the goals specified in the QAPP, and the data are of sufficient quality for the purposes of groundwater monitoring.

Table 2
Validation Flags

Sample ID	Method	Analyte	Final Result	PQL	Units	Final Flag	Reason
09FROBWA-03	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-04	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-06	SW8260B	Chloroform	ND	1.45	µg/L	U	EB Detection
09FROBWA-08	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-09	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-10	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-13	SW8260B	Chloroform	ND	2.94	µg/L	U	EB Detection
09FROBWA-13	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-14	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-15	SW8260B	Carbon tetrachloride	1.72	1.00	µg/L	J+	High LCS Recovery
09FROBWA-15	SW8260B	Dichlorodifluoromethane	ND	1.00	µg/L	UJ	Low CCV Recovery
09FROBWA-33	SW8260B	1,1,2,2-Tetrachloroethane	ND	0.700	µg/L	U	EB Detection
09FROBWA-34	9056A	Sulfate	ND	100	µg/L	U	EB Detection
09FROBWA-34	RSK 175	Methane	1,100	1.3	µg/L	J+	High BMSD Recovery
09FROBWA-35	SW8260B	Chloroform	ND	1.00	µg/L	U	EB Detection
09FROBWA-36	SW8260B	Chloroform	ND	1.00	µg/L	U	EB Detection
09FROBWA-36	SW8260B	cis-1,2-Dichloroethene	34.4	20.0	µg/L	J	High FD RPD
09FROBWA-36	SW8260B	Trichloroethene	348	20.0	µg/L	J	High FD RPD
09FROBWA-36	SW8260B	1,1,2,2-Tetrachloroethane	27.2	10.0	µg/L	J-	Low LCS Recovery
09FROBWA-37	SW8260B	Chloroform	ND	1.00	µg/L	U	EB Detection
09FROBWA-37	SW8260B	1,1,2,2-Tetrachloroethane	82.5	5.00	µg/L	J	High FD RPD
09FROBWA-37	SW8260B	cis-1,2-Dichloroethene	140	10.0	µg/L	J	High FD RPD
09FROBWA-37	SW8260B	Trichloroethene	640	10.0	µg/L	J	High FD RPD
09FROBWA-40	SW8260B	Chloroform	ND	1.00	µg/L	U	EB Detection
09FROBWA-41	SW8260B	Chloroform	ND	1.00	µg/L	U	EB Detection

Notes:

µg/L	micrograms per liter
ND	analyte not detected above PQL
PQL	practical quantitation limit (reporting limit)
CCV	continuing calibration verification
EB	equipment blank
LCS	laboratory control sample
BMSD	billable (project) matrix spike duplicate
FD	field duplicate
RPD	relative percent difference
J	analyte was present but the reported value may not be accurate or precise (estimated)
J+	analyte was present but the reported value may not be accurate or precise (biased high)
J-	analyte was present but the reported value may not be accurate or precise (biased low)
UJ	analyte was not detected and the specified reporting limit may not be accurate or precise (estimated), or the non-detect result may be attributable to a low analytical bias
U	analyte was not detected at the specified reporting limit

Appendix B2
Validated Analytical Results

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3749	PS	26-May-09	09FROBWA-02	9056A	Chloride	1,330		100	31.0	µg/L
AP3749	PS	26-May-09	09FROBWA-02	9056A	Nitrate-N	325		100	31.0	µg/L
AP3749	PS	26-May-09	09FROBWA-02	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3749	PS	26-May-09	09FROBWA-02	9056A	Sulfate	12,000		100	31.0	µg/L
AP3749	PS	26-May-09	09FROBWA-02	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3749	PS	26-May-09	09FROBWA-02	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3749	PS	26-May-09	09FROBWA-02	RSK175	Methane	ND		0.50	0.30	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW6020	Iron	336	J	1,000	310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW6020	Manganese	1.72	J	2.00	0.620	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3749	PS	26-May-09	09FROBWA-02	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4019	PS	27-May-09	09FROBWA-05	9056A	Chloride	5,760		100	31.0	µg/L
AP4019	PS	27-May-09	09FROBWA-05	9056A	Nitrate-N	242		100	31.0	µg/L
AP4019	PS	27-May-09	09FROBWA-05	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4019	PS	27-May-09	09FROBWA-05	9056A	Sulfate	11,300		100	31.0	µg/L
AP4019	PS	27-May-09	09FROBWA-05	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4019	PS	27-May-09	09FROBWA-05	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4019	PS	27-May-09	09FROBWA-05	RSK175	Methane	ND		0.50	0.30	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW6020	Iron	334	J	1,000	310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Chloromethane	0.630	J	1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4019	PS	27-May-09	09FROBWA-05	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3982	PS	27-May-09	09FROBWA-06	9056A	Chloride	1,140		100	31.0	µg/L
AP3982	PS	27-May-09	09FROBWA-06	9056A	Fluoride	43.0	J	100	31.0	µg/L
AP3982	PS	27-May-09	09FROBWA-06	9056A	Nitrate-N	177		100	31.0	µg/L
AP3982	PS	27-May-09	09FROBWA-06	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3982	PS	27-May-09	09FROBWA-06	9056A	Sulfate	7,970		100	31.0	µg/L
AP3982	PS	27-May-09	09FROBWA-06	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3982	PS	27-May-09	09FROBWA-06	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3982	PS	27-May-09	09FROBWA-06	RSK175	Methane	ND		0.50	0.30	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW6020	Iron	1,380		1,000	310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW6020	Manganese	26.7		2.00	0.620	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3982	PS	27-May-09	09FROBWA-06	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4354	PS	27-May-09	09FROBWA-07	9056A	Chloride	616		100	31.0	µg/L
AP4354	PS	27-May-09	09FROBWA-07	9056A	Nitrate-N	81.0	J	100	31.0	µg/L
AP4354	PS	27-May-09	09FROBWA-07	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4354	PS	27-May-09	09FROBWA-07	9056A	Sulfate	492		100	31.0	µg/L
AP4354	PS	27-May-09	09FROBWA-07	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4354	PS	27-May-09	09FROBWA-07	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4354	PS	27-May-09	09FROBWA-07	RSK175	Methane	ND		0.50	0.30	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW6020	Iron	ND		1,000	310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW6020	Manganese	57.3		2.00	0.620	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4354	PS	27-May-09	09FROBWA-07	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4350	PS	28-May-09	09FROBWA-10	9056A	Chloride	32,100		100	31.0	µg/L
AP4350	PS	28-May-09	09FROBWA-10	9056A	Nitrate-N	820		100	31.0	µg/L
AP4350	PS	28-May-09	09FROBWA-10	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4350	PS	28-May-09	09FROBWA-10	9056A	Sulfate	25,300		100	31.0	µg/L
AP4350	PS	28-May-09	09FROBWA-10	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4350	PS	28-May-09	09FROBWA-10	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4350	PS	28-May-09	09FROBWA-10	RSK175	Methane	ND		0.50	0.30	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW6020	Iron	ND		1,000	310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4350	PS	28-May-09	09FROBWA-10	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4345	PS	28-May-09	09FROBWA-11	9056A	Chloride	28,900		100	31.0	µg/L
AP4345	PS	28-May-09	09FROBWA-11	9056A	Nitrate-N	594		100	31.0	µg/L
AP4345	PS	28-May-09	09FROBWA-11	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4345	PS	28-May-09	09FROBWA-11	9056A	Sulfate	26,100		100	31.0	µg/L
AP4345	PS	28-May-09	09FROBWA-11	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4345	PS	28-May-09	09FROBWA-11	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4345	PS	28-May-09	09FROBWA-11	RSK175	Methane	0.31	J	0.50	0.30	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW6020	Iron	ND		1,000	310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW6020	Manganese	0.932	J	2.00	0.620	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4345	PS	28-May-09	09FROBWA-11	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP5246	PS	28-May-09	09FROBWA-12	9056A	Chloride	31,500		100	31.0	µg/L
AP5246	PS	28-May-09	09FROBWA-12	9056A	Nitrate-N	873		100	31.0	µg/L
AP5246	PS	28-May-09	09FROBWA-12	9056A	Nitrite-N	ND		100	31.0	µg/L
AP5246	PS	28-May-09	09FROBWA-12	9056A	Sulfate	26,100		100	31.0	µg/L
AP5246	PS	28-May-09	09FROBWA-12	RSK175	Ethane	ND		0.50	0.11	µg/L
AP5246	PS	28-May-09	09FROBWA-12	RSK175	Ethene	ND		1.5	0.19	µg/L
AP5246	PS	28-May-09	09FROBWA-12	RSK175	Methane	ND		0.50	0.30	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW6020	Iron	ND		1,000	310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW6020	Manganese	1.53	J	2.00	0.620	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP5246	PS	28-May-09	09FROBWA-12	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3748	PS	28-May-09	09FROBWA-13	9056A	Chloride	72,800		1,000	310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	9056A	Nitrate-N	877		100	31.0	µg/L
AP3748	PS	28-May-09	09FROBWA-13	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3748	PS	28-May-09	09FROBWA-13	9056A	Sulfate	17,800		100	31.0	µg/L
AP3748	PS	28-May-09	09FROBWA-13	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3748	PS	28-May-09	09FROBWA-13	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3748	PS	28-May-09	09FROBWA-13	RSK175	Methane	4.8		0.50	0.30	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW6020	Iron	ND		1,000	310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW6020	Manganese	0.832	J	2.00	0.620	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3748	PS	28-May-09	09FROBWA-13	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4518	PS	29-May-09	09FROBWA-16	9056A	Chloride	1,330		100	31.0	µg/L
AP4518	PS	29-May-09	09FROBWA-16	9056A	Nitrate-N	252		100	31.0	µg/L
AP4518	PS	29-May-09	09FROBWA-16	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4518	PS	29-May-09	09FROBWA-16	9056A	Sulfate	10,800		100	31.0	µg/L
AP4518	PS	29-May-09	09FROBWA-16	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4518	PS	29-May-09	09FROBWA-16	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4518	PS	29-May-09	09FROBWA-16	RSK175	Methane	ND		0.50	0.30	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW6020	Iron	ND		1,000	310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Trichloroethene	0.770	J	1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4518	PS	29-May-09	09FROBWA-16	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4344	PS	29-May-09	09FROBWA-17	9056A	Chloride	11,300		100	31.0	µg/L
AP4344	PS	29-May-09	09FROBWA-17	9056A	Nitrate-N	255		100	31.0	µg/L
AP4344	PS	29-May-09	09FROBWA-17	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4344	PS	29-May-09	09FROBWA-17	9056A	Sulfate	11,600		100	31.0	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4344	PS	29-May-09	09FROBWA-17	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4344	PS	29-May-09	09FROBWA-17	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4344	PS	29-May-09	09FROBWA-17	RSK175	Methane	ND		0.50	0.30	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW6020	Iron	ND		1,000	310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	cis-1,2-Dichloroethene	0.410	J	1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Trichloroethene	10.3		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4344	PS	29-May-09	09FROBWA-17	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3981	PS	29-May-09	09FROBWA-18	9056A	Chloride	848		100	31.0	µg/L
AP3981	PS	29-May-09	09FROBWA-18	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3981	PS	29-May-09	09FROBWA-18	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3981	PS	29-May-09	09FROBWA-18	9056A	Sulfate	190		100	31.0	µg/L
AP3981	PS	29-May-09	09FROBWA-18	RSK175	Ethane	0.21	J	0.50	0.11	µg/L
AP3981	PS	29-May-09	09FROBWA-18	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3981	PS	29-May-09	09FROBWA-18	RSK175	Methane	1700		0.50	0.30	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW6020	Iron	8,710		1,000	310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW6020	Manganese	534		2.00	0.620	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1,2,2-Tetrachloroethane	1.57		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	cis-1,2-Dichloroethene	0.980	J	1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Trichloroethene	7.30		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3981	PS	29-May-09	09FROBWA-18	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	9056A	Chloride	2,240		100	31.0	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	9056A	Nitrate-N	543		100	31.0	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	9056A	Sulfate	8,710		100	31.0	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	RSK175	Ethane	0.80		0.50	0.11	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	RSK175	Ethene	1.1	J	1.5	0.19	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	RSK175	Methane	84		0.50	0.30	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW6020	Iron	6,700		1,000	310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW6020	Manganese	75.6		2.00	0.620	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1,1,2-Tetrachloroethane	0.380	J	0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1,2,2-Tetrachloroethane	173		10.0	3.00	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1,2-Trichloroethane	1.05		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1-Dichloroethene	0.710	J	1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,2-Dichloropropane	0.460	J	1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Benzene	0.210	J	0.400	0.120	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Carbon tetrachloride	1.49		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Chloroform	0.790	J	1.00	0.300	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	cis-1,2-Dichloroethene	23.5		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Tetrachloroethene	15.5		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	trans-1,2-Dichloroethene	6.13		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Trichloroethene	616		20.0	6.20	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3984	PS	1-Jun-09	09FROBWA-21	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	9056A	Chloride	2,370		100	31.0	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	9056A	Nitrate-N	585		100	31.0	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	9056A	Sulfate	9,180		100	31.0	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	RSK175	Ethane	0.70		0.50	0.11	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	RSK175	Ethene	1.0		1.5	0.19	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	RSK175	Methane	73		0.50	0.30	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW6020	Iron	6,870		1,000	310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW6020	Manganese	77.2		2.00	0.620	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1,1,2-Tetrachloroethane	0.440	J	0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1,2,2-Tetrachloroethane	180		10.0	3.00	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1,2-Trichloroethane	1.19		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1-Dichloroethene	0.830	J	1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,2-Dichloropropane	0.520	J	1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Benzene	0.230	J	0.400	0.120	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Carbon tetrachloride	1.75		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Chloroform	0.880	J	1.00	0.300	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	cis-1,2-Dichloroethene	25.8		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Tetrachloroethene	18.3		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	trans-1,2-Dichloroethene	6.87		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Trichloroethene	695		20.0	6.20	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3984	FD	1-Jun-09	09FROBWA-22	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	9056A	Chloride	1,330		100	31.0	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	9056A	Nitrate-N	394		100	31.0	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	9056A	Sulfate	13,400		100	31.0	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	RSK175	Methane	ND		0.50	0.30	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW6020	Iron	326	J	1,000	310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW6020	Manganese	1.15	J	2.00	0.620	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1,2,2-Tetrachloroethane	12.4		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	cis-1,2-Dichloroethene	2.65		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	trans-1,2-Dichloroethene	0.790	J	1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Trichloroethene	26.3		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3745	PS	1-Jun-09	09FROBWA-23	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	9056A	Chloride	1,340		100	31.0	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	9056A	Nitrate-N	258		100	31.0	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	9056A	Sulfate	11,300		100	31.0	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	RSK175	Methane	ND		0.50	0.30	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW6020	Iron	342	J	1,000	310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1,2,2-Tetrachloroethane	1.05		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Acetone	ND		10.0	3.10	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Carbon tetrachloride	0.440	J	1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	cis-1,2-Dichloroethene	2.41		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Trichloroethene	15.8		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4011	PS	1-Jun-09	09FROBWA-24	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	9056A	Chloride	1,340		100	31.0	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	9056A	Nitrate-N	356		100	31.0	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	9056A	Sulfate	11,800		100	31.0	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	RSK175	Methane	ND		0.50	0.30	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW6020	Iron	342	J	1,000	310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW6020	Manganese	ND		2.00	0.620	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1,2,2-Tetrachloroethane	1.50		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Trichloroethene	12.3		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3744	PS	2-Jun-09	09FROBWA-27	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	9056A	Chloride	1,780		100	31.0	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	9056A	Sulfate	25,400		100	31.0	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	RSK175	Methane	35		0.50	0.30	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW6020	Iron	2,080		1,000	310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW6020	Manganese	264		2.00	0.620	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1,2,2-Tetrachloroethane	158		25.0	7.50	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1,2-Trichloroethane	6.69		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1-Dichloroethene	1.50		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Benzene	1.26		0.400	0.120	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	cis-1,2-Dichloroethene	93.0		50.0	15.5	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Tetrachloroethene	3.83		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	trans-1,2-Dichloroethene	31.9		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Trichloroethene	534		50.0	15.5	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3989	PS	2-Jun-09	09FROBWA-28	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	9056A	Chloride	1,610		100	31.0	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	9056A	Nitrate-N	299		100	31.0	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	9056A	Sulfate	9,200		100	31.0	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	RSK175	Ethane	ND		0.50	0.11	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	RSK175	Methane	ND		0.50	0.30	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW6020	Iron	ND		1,000	310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW6020	Manganese	2.07		2.00	0.620	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1,2,2-Tetrachloroethane	9.11		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1,2-Trichloroethane	2.65		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1-Dichloroethene	1.52		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Chloroform	2.25		1.00	0.300	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	cis-1,2-Dichloroethene	25.9		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Tetrachloroethene	4.83		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	trans-1,2-Dichloroethene	8.22		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Trichloroethene	472		20.0	6.20	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3747	PS	2-Jun-09	09FROBWA-29	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	9056A	Chloride	2,270		100	31.0	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	9056A	Sulfate	17,400		100	31.0	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	RSK175	Ethane	1.1		0.50	0.11	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	RSK175	Ethene	0.65	J	1.5	0.19	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	RSK175	Methane	290		0.50	0.30	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW6020	Iron	6,850		1,000	310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW6020	Manganese	783		2.00	0.620	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1,2,2-Tetrachloroethane	91.5		25.0	7.50	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1,2-Trichloroethane	4.21		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1-Dichloroethene	5.33		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Benzene	0.210	J	0.400	0.120	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	cis-1,2-Dichloroethene	119		50.0	15.5	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Tetrachloroethene	7.23		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	trans-1,2-Dichloroethene	31.7		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Trichloroethene	505		50.0	15.5	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Vinyl chloride	0.730	J	1.00	0.310	µg/L
AP4519	PS	2-Jun-09	09FROBWA-30	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	9056A	Chloride	2,350		100	31.0	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	9056A	Nitrate-N	ND		100	31.0	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4519	FD	2-Jun-09	09FROBWA-31	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	9056A	Sulfate	17,400		100	31.0	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	RSK175	Ethane	1.1		0.50	0.11	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	RSK175	Ethene	0.68	J	1.5	0.19	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	RSK175	Methane	300		0.50	0.30	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW6020	Iron	6,910		1,000	310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW6020	Manganese	798		2.00	0.620	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1,2,2-Tetrachloroethane	81.5		25.0	7.50	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1,2-Trichloroethane	4.40		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1-Dichloroethene	6.75		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Benzene	0.230	J	0.400	0.120	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	cis-1,2-Dichloroethene	123		50.0	15.5	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Tetrachloroethene	7.67		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	trans-1,2-Dichloroethene	37.4		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Trichloroethene	513		50.0	15.5	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Vinyl chloride	0.940	J	1.00	0.310	µg/L
AP4519	FD	2-Jun-09	09FROBWA-31	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	9056A	Chloride	1,160		100	31.0	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	9056A	Sulfate	3,450		100	31.0	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	RSK175	Ethane	0.74		0.50	0.11	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	RSK175	Ethene	0.34	J	1.5	0.19	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	RSK175	Methane	950		0.50	0.30	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW6020	Iron	11,900		1,000	310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW6020	Manganese	750		2.00	0.620	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1,2,2-Tetrachloroethane	49.8		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1,2-Trichloroethane	1.74		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1-Dichloroethene	1.33		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	cis-1,2-Dichloroethene	42.8		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	o-Xylene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Tetrachloroethene	3.71		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	trans-1,2-Dichloroethene	13.0		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Trichloroethene	227		20.0	6.20	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4353	PS	3-Jun-09	09FROBWA-34	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	9056A	Chloride	1,170		100	31.0	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	9056A	Sulfate	3,480		100	31.0	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	RSK175	Ethane	0.68		0.50	0.11	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	RSK175	Ethene	0.25	J	1.5	0.19	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	RSK175	Methane	980		0.50	0.30	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW6020	Iron	14,500		1,000	310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW6020	Manganese	884		2.00	0.620	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1,2,2-Tetrachloroethane	50.5		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1,2-Trichloroethane	1.64		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1-Dichloroethene	1.24		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	cis-1,2-Dichloroethene	41.8		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Tetrachloroethene	3.60		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	trans-1,2-Dichloroethene	12.5		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Trichloroethene	209		20.0	6.20	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4353	FD	3-Jun-09	09FROBWA-35	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	9056A	Chloride	1,930		100	31.0	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	9056A	Sulfate	14,800		100	31.0	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	RSK175	Ethane	0.45	J	0.50	0.11	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	RSK175	Ethene	ND		1.5	0.19	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	RSK175	Methane	250		0.50	0.30	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW6020	Iron	7,780		1,000	310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW6020	Manganese	648		2.00	0.620	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1,2,2-Tetrachloroethane	42.4		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1,2-Trichloroethane	2.10		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1-Dichloroethene	2.73		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Chloroform	0.360	J	1.00	0.300	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Chloromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	cis-1,2-Dichloroethene	35.0		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Tetrachloroethene	7.22		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	trans-1,2-Dichloroethene	6.96		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Trichloroethene	353		20.0	6.20	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3985	PS	3-Jun-09	09FROBWA-36	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	9056A	Chloride	7,240		100	31.0	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	9056A	Sulfate	44,100		100	31.0	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	RSK175	Ethane	0.27	J	0.50	0.11	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	RSK175	Ethene	0.25	J	1.5	0.19	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	RSK175	Methane	56		0.50	0.30	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW6020	Iron	8,290		1,000	310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW6020	Manganese	936		2.00	0.620	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1,2,2-Tetrachloroethane	598		10.0	3.00	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1,2-Trichloroethane	16.3		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1-Dichloroethene	6.65		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Benzene	1.29		0.400	0.120	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Bromoform	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Chloroform	1.70		1.00	0.300	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	cis-1,2-Dichloroethene	302		20.0	6.20	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Tetrachloroethene	38.8		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	trans-1,2-Dichloroethene	91.8		20.0	6.20	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Trichloroethene	2,210		50.0	15.5	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Vinyl chloride	0.770	J	1.00	0.310	µg/L
AP4550	PS	3-Jun-09	09FROBWA-37	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	9056A	Chloride	2,150		100	31.0	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	9056A	Sulfate	11,800		100	31.0	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	RSK175	Ethane	0.57		0.50	0.11	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	RSK175	Ethene	0.30	J	1.5	0.19	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	RSK175	Methane	710		0.50	0.30	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW6020	Iron	3,580		1,000	310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW6020	Manganese	1,790		2.00	0.620	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1,2,2-Tetrachloroethane	204		10.0	3.00	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1,2-Trichloroethane	16.2		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1-Dichloroethene	11.8		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Benzene	0.380	J	0.400	0.120	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Chloroform	0.700	J	1.00	0.300	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	cis-1,2-Dichloroethene	328		20.0	6.20	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Tetrachloroethene	1.34		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	trans-1,2-Dichloroethene	97.8		20.0	6.20	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Trichloroethene	1,170		20.0	6.20	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Vinyl chloride	3.28		1.00	0.310	µg/L
AP4017	PS	3-Jun-09	09FROBWA-38	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	9056A	Chloride	6,920		100	31.0	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	9056A	Nitrate-N	216		100	31.0	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	9056A	Sulfate	34,100		100	31.0	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	RSK175	Methane	ND		0.50	0.30	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW6020	Iron	520	J	1,000	310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW6020	Manganese	12.7		2.00	0.620	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1,2,2-Tetrachloroethane	82.0		10.0	3.00	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1,2-Trichloroethane	14.7		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1-Dichloroethene	3.94		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Carbon tetrachloride	2.16		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Chloroform	3.87		1.00	0.300	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	cis-1,2-Dichloroethene	192		20.0	6.20	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Tetrachloroethene	11.4		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	trans-1,2-Dichloroethene	33.8		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Trichloroethene	2,060		50.0	15.5	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4525	PS	3-Jun-09	09FROBWA-39	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	9056A	Chloride	4,940		100	31.0	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	9056A	Sulfate	13,000		100	31.0	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	RSK175	Methane	1.2		0.50	0.30	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW6020	Iron	ND		1,000	310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW6020	Manganese	47.6		2.00	0.620	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1,2,2-Tetrachloroethane	65.6		10.0	3.00	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1,2-Trichloroethane	7.42		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1-Dichloroethene	6.82		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Chloroform	1.41		1.00	0.300	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	cis-1,2-Dichloroethene	106		20.0	6.20	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Tetrachloroethene	3.24		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	trans-1,2-Dichloroethene	7.96		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Trichloroethene	2,040		50.0	15.5	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4551	PS	3-Jun-09	09FROBWA-40	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	9056A	Chloride	7,070		100	31.0	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	9056A	Nitrate-N	239		100	31.0	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	9056A	Sulfate	51,000		1,000	310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	RSK175	Ethane	1.2		0.50	0.11	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	RSK175	Ethene	0.84	J	1.5	0.19	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	RSK175	Methane	0.39	J	0.50	0.30	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW6020	Iron	4,680		1,000	310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW6020	Manganese	920		2.00	0.620	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1,2,2-Tetrachloroethane	517		10.0	3.00	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1,2-Trichloroethane	16.5		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1-Dichloroethene	2.70		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2-Dichloroethane	0.810		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,2-Dichloropropane	0.480	J	1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Acetone	8.37	J	10.0	3.10	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Benzene	0.470		0.400	0.120	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Chloroform	3.69		1.00	0.300	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	cis-1,2-Dichloroethene	211		20.0	6.20	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Tetrachloroethene	24.0		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	trans-1,2-Dichloroethene	52.9		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Trichloroethene	1,540		50.0	15.5	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3983	PS	3-Jun-09	09FROBWA-41	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	9056A	Chloride	2,060		100	31.0	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	9056A	Nitrate-N	318		100	31.0	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	9056A	Sulfate	10,200		100	31.0	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	RSK175	Ethane	ND		0.50	0.11	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	RSK175	Ethene	ND		1.5	0.19	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	RSK175	Methane	ND		0.50	0.30	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4352	PS	3-Jun-09	09FROBWA-42	SW6020	Iron	ND		1,000	310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW6020	Manganese	2.52		2.00	0.620	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4352	PS	3-Jun-09	09FROBWA-42	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units

Notes:

µg/L	micrograms per liter
mg/L	milligrams per liter
ND	analyte not detected above PQL
PQL	practical quantitation limit
MDL	method detection limt
PS	project sample
FD	field duplicate
J	analyte was present but the reported value may not be accurate or precise (estimated)
J+	analyte was present but the reported value may not be accurate or precise (biased high)
J-	analyte was present but the reported value may not be accurate or precise (biased low)
UJ	analyte was not detected and the specified reporting limit may not be accurate or precise (estimated)
U	analyte was not detected at the specified reporting limit

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3749	PS	2-Oct-09	09FROBWA-02	9056A	Chloride	1,540		100	31.0	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	9056A	Nitrate-N	364		100	31.0	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	9056A	Sulfate	12,500		100	31.0	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	RSK 175	Methane	ND		1.3	0.42	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW6020	Iron	ND		1,000	310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW6020	Manganese	0.942	J	2.00	0.620	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3749	PS	2-Oct-09	09FROBWA-02	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	9056A	Chloride	34,200		100	31.0	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	9056A	Nitrate-N	836		100	31.0	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	9056A	Sulfate	26,100		100	31.0	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	RSK 175	Methane	ND		1.3	0.42	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW6020	Iron	ND		1,000	310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4350	PS	2-Oct-09	09FROBWA-03	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	9056A	Chloride	12,800		100	31.0	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	9056A	Nitrate-N	294		100	31.0	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	9056A	Sulfate	11,900		100	31.0	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	RSK 175	Methane	ND		1.3	0.42	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW6020	Iron	ND		1,000	310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	cis-1,2-Dichloroethene	0.340	J	1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Trichloroethene	11.2		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4344	PS	2-Oct-09	09FROBWA-04	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	9056A	Chloride	3,310		100	31.0	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	9056A	Nitrate-N	64.0	J	100	31.0	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	9056A	Sulfate	10,600		100	31.0	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	RSK 175	Methane	1.5		1.3	0.42	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW6020	Iron	ND		1,000	310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW6020	Manganese	85.6		2.00	0.620	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1,2,2-Tetrachloroethane	101		25.0	7.50	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1,2-Trichloroethane	7.36		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1-Dichloroethene	7.57		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Benzene	0.270	J	0.400	0.120	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Chloroethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Chloroform	ND	U	1.45	0.300	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	cis-1,2-Dichloroethene	139		50.0	15.5	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Tetrachloroethene	3.03		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	trans-1,2-Dichloroethene	10.2		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Trichloroethene	1,810		50.0	15.5	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4551	PS	2-Oct-09	09FROBWA-06	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	9056A	Chloride	22,700		100	31.0	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	9056A	Nitrate-N	602		100	31.0	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	9056A	Sulfate	25,700		100	31.0	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	RSK 175	Methane	0.51	J	1.3	0.42	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW6020	Iron	ND		1,000	310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW6020	Manganese	0.683	J	2.00	0.620	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Chloromethane	0.470	J	1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4345	PS	5-Oct-09	09FROBWA-08	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	9056A	Chloride	32,300		100	31.0	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	9056A	Nitrate-N	819		100	31.0	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	9056A	Nitrite-N	ND		100	31.0	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	9056A	Sulfate	25,400		100	31.0	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	RSK 175	Methane	ND		1.3	0.42	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW6020	Iron	ND		1,000	310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW6020	Manganese	0.863	J	2.00	0.620	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP5246	PS	5-Oct-09	09FROBWA-09	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	9056A	Chloride	80,400		200	62.0	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	9056A	Nitrate-N	904		100	31.0	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	9056A	Sulfate	18,200		100	31.0	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	RSK 175	Methane	0.98	J	1.3	0.42	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW6020	Iron	ND		1,000	310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW6020	Manganese	ND		2.00	0.620	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Chloromethane	0.330	J	1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3748	PS	5-Oct-09	09FROBWA-10	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	9056A	Chloride	1,560		100	31.0	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	9056A	Nitrate-N	406		100	31.0	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	9056A	Sulfate	10,300		100	31.0	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	RSK 175	Methane	0.51	J	1.3	0.42	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW6020	Iron	ND		1,000	310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW6020	Manganese	0.775	J	2.00	0.620	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1,2,2-Tetrachloroethane	10.6		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1,2-Trichloroethane	3.77		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1-Dichloroethene	2.19		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Carbon tetrachloride	ND		50.0	15.5	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Chloroform	ND	U	2.94	0.300	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	cis-1,2-Dichloroethene	41.4		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Methylene chloride	1.17	J	5.00	1.00	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Tetrachloroethene	7.74		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	trans-1,2-Dichloroethene	13.2		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Trichloroethene	683		50.0	15.5	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3747	PS	6-Oct-09	09FROBWA-13	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	9056A	Chloride	7,240		100	31.0	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	9056A	Nitrate-N	257		100	31.0	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	9056A	Sulfate	11,500		100	31.0	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	RSK 175	Methane	0.59	J	1.3	0.42	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW6020	Iron	ND		1,000	310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Chloromethane	0.390	J	1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Trichloroethene	0.360	J	1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4019	PS	6-Oct-09	09FROBWA-14	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	9056A	Chloride	1,300		100	31.0	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	9056A	Nitrate-N	277		100	31.0	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	9056A	Sulfate	11,200		100	31.0	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	RSK 175	Ethane	0.97		0.60	0.11	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4011	PS	6-Oct-09	09FROBWA-15	RSK 175	Ethene	0.84	J	1.0	0.069	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	RSK 175	Methane	0.55	J	1.3	0.42	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW6020	Iron	ND		1,000	310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW6020	Manganese	ND		2.00	0.620	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1,2,2-Tetrachloroethane	0.590		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Carbon tetrachloride	1.72	J+	1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	cis-1,2-Dichloroethene	2.52		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Dichlorodifluoromethane	ND	UJ	1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Trichloroethene	15.5		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4011	PS	6-Oct-09	09FROBWA-15	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	9056A	Chloride	6,050		100	31.0	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	9056A	Nitrate-N	169		100	31.0	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	9056A	Sulfate	33,100		100	31.0	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	RSK 175	Methane	0.57	J	1.3	0.42	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW6020	Iron	ND		1,000	310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW6020	Manganese	1.92	J	2.00	0.620	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1,2,2-Tetrachloroethane	108		25.0	7.50	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1,2-Trichloroethane	15.6		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1-Dichloroethene	4.86		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Benzene	0.240	J	0.400	0.120	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Carbon tetrachloride	ND		20.0	6.20	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Chloroform	4.07		1.00	0.300	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	cis-1,2-Dichloroethene	199		20.0	6.20	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Tetrachloroethene	ND		20.0	6.20	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	trans-1,2-Dichloroethene	36.5		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Trichloroethene	2,270		50.0	15.5	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4525	PS	7-Oct-09	09FROBWA-18	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	9056A	Chloride	1,630		100	31.0	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	9056A	Sulfate	27,300		100	31.0	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	RSK 175	Methane	11		1.3	0.42	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW6020	Iron	1,150		1,000	310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW6020	Manganese	209		2.00	0.620	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1,2,2-Tetrachloroethane	161		25.0	7.50	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1,2-Trichloroethane	6.61		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1-Dichloroethene	1.45		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Benzene	1.19		0.400	0.120	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Carbon tetrachloride	ND		50.0	15.5	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Chloroform	0.700	J	1.00	0.300	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	cis-1,2-Dichloroethene	99.0		50.0	15.5	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Tetrachloroethene	ND		50.0	15.5	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	trans-1,2-Dichloroethene	31.7		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Trichloroethene	611		50.0	15.5	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3989	PS	7-Oct-09	09FROBWA-19	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	9056A	Chloride	1,340		100	31.0	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	9056A	Nitrate-N	273		100	31.0	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	9056A	Sulfate	10,800		100	31.0	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	RSK 175	Methane	ND		1.3	0.42	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW6020	Iron	1,250		1,000	310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW6020	Manganese	39.7		2.00	0.620	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Trichloroethene	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4518	PS	7-Oct-09	09FROBWA-20	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	9056A	Chloride	7,140		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	9056A	Nitrate-N	149		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	9056A	Nitrite-N	75.0	J	100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	9056A	Sulfate	59,700		200	62.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	RSK 175	Ethane	2.4		0.60	0.11	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	RSK 175	Ethene	2.1		1.0	0.069	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	RSK 175	Methane	1.2	J	1.3	0.42	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW6020	Iron	29,300		1,000	310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW6020	Manganese	1,860		2.00	0.620	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1,2,2-Tetrachloroethane	727		50.0	15.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1,2-Trichloroethane	22.3		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1-Dichloroethene	5.23		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2-Dichloroethane	0.840		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,2-Dichloropropane	0.600	J	1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Benzene	0.710		0.400	0.120	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Carbon tetrachloride	ND		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Chloroform	4.06		1.00	0.300	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Chloromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	cis-1,2-Dichloroethene	366		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Tetrachloroethene	ND		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	trans-1,2-Dichloroethene	ND		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Trichloroethene	2,320		100	31.0	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Vinyl chloride	0.410	J	1.00	0.310	µg/L
AP3983	PS	7-Oct-09	09FROBWA-22	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	9056A	Chloride	1,200		100	31.0	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	9056A	Nitrate-N	426		100	31.0	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	9056A	Sulfate	13,100		100	31.0	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	RSK 175	Methane	ND		1.3	0.42	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW6020	Iron	ND		1,000	310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW6020	Manganese	ND		2.00	0.620	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1,2,2-Tetrachloroethane	3.83		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Bromoform	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	cis-1,2-Dichloroethene	3.71		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	trans-1,2-Dichloroethene	1.01		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Trichloroethene	37.9		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3745	PS	8-Oct-09	09FROBWA-24	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	9056A	Chloride	1,240		100	31.0	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	9056A	Nitrate-N	415		100	31.0	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	9056A	Sulfate	13,100		100	31.0	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	RSK 175	Methane	ND		1.3	0.42	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW6020	Iron	ND		1,000	310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW6020	Manganese	ND		2.00	0.620	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1,2,2-Tetrachloroethane	3.93		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	cis-1,2-Dichloroethene	4.05		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	trans-1,2-Dichloroethene	1.19		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Trichloroethene	40.2		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3745	FD	8-Oct-09	09FROBWA-25	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	9056A	Chloride	7,350		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	9056A	Sulfate	44,400		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	RSK 175	Ethane	0.30	J	0.60	0.11	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	RSK 175	Ethene	0.30	J	1.0	0.069	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	RSK 175	Methane	41		1.3	0.42	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW6020	Iron	9,060		1,000	310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW6020	Manganese	1,040		2.00	0.620	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1,2,2-Tetrachloroethane	618		50.0	15.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1,2-Trichloroethane	16.8		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1-Dichloroethene	8.33		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Benzene	1.47		0.400	0.120	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Chloroform	1.47		1.00	0.300	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	cis-1,2-Dichloroethene	302		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Tetrachloroethene	41.5		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	trans-1,2-Dichloroethene	102		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Trichloroethene	2,260		100	31.0	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4550	PS	8-Oct-09	09FROBWA-26	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	9056A	Chloride	1,070		100	31.0	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	9056A	Nitrate-N	208		100	31.0	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	9056A	Sulfate	7,980		100	31.0	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	RSK 175	Methane	ND		1.3	0.42	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW6020	Iron	1,050		1,000	310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW6020	Manganese	32.1		2.00	0.620	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1,2,2-Tetrachloroethane	1.44		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Trichloroethene	1.77		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3982	PS	8-Oct-09	09FROBWA-27	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	9056A	Chloride	1,330		100	31.0	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	9056A	Nitrate-N	366		100	31.0	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	9056A	Sulfate	12,600		100	31.0	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	RSK 175	Methane	0.51	J	1.3	0.42	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW6020	Iron	ND		1,000	310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW6020	Manganese	0.673	J	2.00	0.620	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1,2,2-Tetrachloroethane	2.68		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Trichloroethene	19.5		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3744	PS	8-Oct-09	09FROBWA-28	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	9056A	Chloride	1,010		100	31.0	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	9056A	Sulfate	2,150		100	31.0	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	RSK 175	Ethane	0.39	J	0.60	0.11	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	RSK 175	Ethene	0.14	J	1.0	0.069	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	RSK 175	Methane	570		1.3	0.42	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4353	PS	9-Oct-09	09FROBWA-31	SW6020	Iron	16,300		1,000	310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW6020	Manganese	963		2.00	0.620	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1,2,2-Tetrachloroethane	52.7		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1,2-Trichloroethane	1.66		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1-Dichloroethene	1.24		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	cis-1,2-Dichloroethene	40.9		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Tetrachloroethene	3.45		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	trans-1,2-Dichloroethene	13.5		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Trichloroethene	185		10.0	3.10	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4353	PS	9-Oct-09	09FROBWA-31	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4353	FD	9-Oct-09	09FROBWA-32	9056A	Chloride	1,020		100	31.0	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	9056A	Sulfate	2,060		100	31.0	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	RSK 175	Ethane	0.43	J	0.60	0.11	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	RSK 175	Ethene	0.12	J	1.0	0.069	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	RSK 175	Methane	680		1.3	0.42	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW6020	Iron	15,600		1,000	310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW6020	Manganese	924		2.00	0.620	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1,2,2-Tetrachloroethane	56.1		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1,2-Trichloroethane	1.66		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1-Dichloroethene	1.23		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	cis-1,2-Dichloroethene	42.6		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Tetrachloroethene	3.57		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	trans-1,2-Dichloroethene	13.8		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Trichloroethene	197		10.0	3.10	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4353	FD	9-Oct-09	09FROBWA-32	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	9056A	Chloride	719		100	31.0	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	9056A	Nitrate-N	107		100	31.0	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	9056A	Sulfate	594		100	31.0	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	RSK 175	Methane	20		1.3	0.42	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW6020	Iron	ND		1,000	310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW6020	Manganese	108		2.00	0.620	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1,2,2-Tetrachloroethane	ND	U	0.700	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Trichloroethene	0.590	J	1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP4354	PS	9-Oct-09	09FROBWA-33	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	9056A	Chloride	821		100	31.0	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	9056A	Sulfate	ND	U	100	31.0	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	RSK 175	Ethane	0.13	J	0.60	0.11	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	RSK 175	Methane	1,100	J+	1.3	0.42	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW6020	Iron	16,300		1,000	310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW6020	Manganese	980		2.00	0.620	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1,2,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1,2-Trichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1-Dichloroethene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Bromomethane	ND		3.00	0.940	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Chloroform	ND		1.00	0.300	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	cis-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Tetrachloroethene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	trans-1,2-Dichloroethene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Trichloroethene	0.850	J	1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3981	PS	9-Oct-09	09FROBWA-34	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	9056A	Chloride	1,890		100	31.0	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	9056A	Nitrate-N	ND		100	31.0	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	9056A	Sulfate	15,400		100	31.0	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	RSK 175	Ethane	0.65		0.60	0.11	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	RSK 175	Ethene	0.16	J	1.0	0.069	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	RSK 175	Methane	260		1.3	0.42	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW6020	Iron	9,690		1,000	310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW6020	Manganese	833		2.00	0.620	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1,2,2-Tetrachloroethane	61.3		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1,2-Trichloroethane	2.75		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1-Dichloroethene	3.56		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	2,2-Dichloropropane	ND		20.0	6.20	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Bromomethane	ND		60.0	18.8	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Chloroethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Chloroform	ND	U	1.00	0.300	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	cis-1,2-Dichloroethene	39.6		20.0	6.20	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Tetrachloroethene	ND		20.0	6.20	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	trans-1,2-Dichloroethene	8.46		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Trichloroethene	424		20.0	6.20	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3985	PS	9-Oct-09	09FROBWA-35	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	9056A	Chloride	2,220		100	31.0	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	9056A	Sulfate	20,400		100	31.0	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	RSK 175	Ethane	0.32	J	0.60	0.11	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	RSK 175	Ethene	0.23	J	1.0	0.069	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	RSK 175	Methane	86		1.3	0.42	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW6020	Iron	8,340		1,000	310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW6020	Manganese	863		2.00	0.620	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1,2,2-Tetrachloroethane	27.2	J-	10.0	3.00	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1,2-Trichloroethane	4.11		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1-Dichloroethene	6.75		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	2,2-Dichloropropane	ND		20.0	6.20	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Benzene	0.290	J	0.400	0.120	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Bromomethane	ND		60.0	18.8	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Chloroform	ND	U	1.00	0.300	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	cis-1,2-Dichloroethene	34.4	J	20.0	6.20	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Tetrachloroethene	ND		20.0	6.20	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	trans-1,2-Dichloroethene	35.8		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Trichloroethene	348	J	20.0	6.20	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Vinyl chloride	0.750	J	1.00	0.310	µg/L
AP4519	PS	9-Oct-09	09FROBWA-36	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	9056A	Chloride	2,210		100	31.0	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	9056A	Sulfate	20,400		100	31.0	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	RSK 175	Ethane	0.70		0.60	0.11	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	RSK 175	Ethene	0.40	J	1.0	0.069	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	RSK 175	Methane	180		1.3	0.42	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW6020	Iron	8,000		1,000	310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW6020	Manganese	804		2.00	0.620	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1,2,2-Tetrachloroethane	82.5	J	5.00	1.50	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1,2-Trichloroethane	4.13		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1-Dichloroethene	6.75		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	2,2-Dichloropropane	ND		10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Benzene	0.280	J	0.400	0.120	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Bromomethane	ND		30.0	9.40	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Chloroethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Chloroform	ND	U	1.00	0.300	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	cis-1,2-Dichloroethene	140	J	10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Tetrachloroethene	7.60	J	10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	trans-1,2-Dichloroethene	36.8		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Trichloroethene	640	J	10.0	3.10	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Vinyl chloride	0.860	J	1.00	0.310	µg/L
AP4519	FD	9-Oct-09	09FROBWA-37	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	9056A	Chloride	2,100		100	31.0	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	9056A	Nitrate-N	ND		100	31.0	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	9056A	Nitrite-N	ND		100	31.0	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	9056A	Sulfate	11,300		100	31.0	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	RSK 175	Ethane	0.46	J	0.60	0.11	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	RSK 175	Ethene	0.28	J	1.0	0.069	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	RSK 175	Methane	530		1.3	0.42	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW6020	Iron	4,230		1,000	310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW6020	Manganese	1,990		2.00	0.620	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1,1,2-Tetrachloroethane	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1,2,2-Tetrachloroethane	206		25.0	7.50	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1,2-Trichloroethane	16.8		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1-Dichloroethene	13.2		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Benzene	0.370	J	0.400	0.120	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Bromomethane	ND		150	47.0	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Carbon tetrachloride	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Chloroethane	ND		50.0	15.5	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Chloroform	ND	U	1.00	0.300	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	cis-1,2-Dichloroethene	304		50.0	15.5	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Tetrachloroethene	1.55		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	trans-1,2-Dichloroethene	91.0		50.0	15.5	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Trichloroethene	884		50.0	15.5	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Vinyl chloride	ND		50.0	15.5	µg/L
AP4017	PS	12-Oct-09	09FROBWA-40	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	9056A	Chloride	1,820		100	31.0	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	9056A	Nitrate-N	559		100	31.0	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	9056A	Nitrite-N	ND		100	31.0	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	9056A	Sulfate	8,090		100	31.0	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	RSK 175	Ethane	ND		0.60	0.11	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	RSK 175	Ethene	ND		1.0	0.069	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	RSK 175	Methane	6.7		1.3	0.42	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW6020	Iron	5,050		1,000	310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW6020	Manganese	58.7		2.00	0.620	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1,1,2-Tetrachloroethane	0.990		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1,1-Trichloroethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1,2,2-Tetrachloroethane	68.0		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1,2-Trichloroethane	0.530	J	1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1-Dichloroethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1-Dichloroethene	0.390	J	1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,1-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2,3-Trichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2,3-Trichloropropane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2,4-Trichlorobenzene	ND		1.00	0.310	µg/L

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2,4-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2-Dibromo-3-chloropropane	ND		2.00	0.620	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2-Dibromoethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2-Dichloroethane	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,3,5-Trimethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,3-Dichlorobenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,3-Dichloropropane	ND		0.400	0.120	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	1,4-Dichlorobenzene	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	2,2-Dichloropropane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	2-Butanone (MEK)	ND		10.0	3.10	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	2-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	2-Hexanone	ND		10.0	3.10	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	4-Chlorotoluene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	4-Isopropyltoluene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	4-Methyl-2-pentanone (MIBK)	ND		10.0	3.10	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Acetone	ND		10.0	3.10	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Benzene	ND		0.400	0.120	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Bromobenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Bromochloromethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Bromodichloromethane	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Bromoform	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Bromomethane	ND		150	47.0	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Carbon disulfide	ND		2.00	0.620	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Carbon tetrachloride	2.03		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Chlorobenzene	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Chloroethane	ND		50.0	15.5	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Chloroform	ND	U	1.00	0.300	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Chloromethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	cis-1,2-Dichloroethene	8.90		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	cis-1,3-Dichloropropene	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Dibromochloromethane	ND		0.500	0.150	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Dibromomethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Dichlorodifluoromethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Ethylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Hexachlorobutadiene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Isopropylbenzene (Cumene)	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Methylene chloride	ND		5.00	1.00	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Methyl-t-butyl ether	ND		5.00	1.50	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Naphthalene	ND		2.00	0.620	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	n-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	n-Propylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	o-Xylene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	P & M -Xylene	ND		2.00	0.620	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	sec-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Styrene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	tert-Butylbenzene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Tetrachloroethene	6.63		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Toluene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	trans-1,2-Dichloroethene	2.46		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	trans-1,3-Dichloropropene	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Trichloroethene	248		50.0	15.5	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Trichlorofluoromethane	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Vinyl chloride	ND		1.00	0.310	µg/L
AP3984	PS	12-Oct-09	09FROBWA-41	SW8260B	Xylenes (total)	ND		2.00	1.00	µg/L

Notes:

- µg/L micrograms per liter
- mg/L milligrams per liter
- ND analyte not detected above PQL
- PQL practical quantitation limit
- MDL method detection limt
- PS project sample
- FD field duplicate
- J analyte was present but the reported value may not be accurate or precise (estimated)
- J+ analyte was present but the reported value may not be accurate or precise (biased high)
- J- analyte was present but the reported value may not be accurate or precise (biased low)

Location	Sample Type	Sample Date	Sample ID	Method	Analyte	Final Result	Final Validation Flag	PQL	MDL	Units

UJ analyte was not detected and the specified reporting limit may not be accurate or precise (estimated)

U analyte was not detected at the specified reporting limit

Appendix B3
ADEC Laboratory Data Review Checklists

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 28, 2009

Laboratory Report Date: June 25, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092236

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: None of the anomalies noted affected data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments: No duplicate or MSD was analyzed for metals.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101

60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: We have no measure of analytical precision for the metals results; see field-duplicate RPDs for a measure of overall precision.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-01*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: See SDGs containing field-duplicates for assessment of precision.

iv. Data quality or usability affected? Explain. ***NA*** See above.

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-03.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Chloride was detected above the PQL, and sulfate, nitrate, toluene, and benzene were detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: Results for the analytes listed above were either below MDLs or greater than 5-times the concentration in the equipment blank.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 28, 2009

Laboratory Report Date: June 25, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092246

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification is not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments: The temperature blank was at 1.3 °C; no ice was observed in samples, so results are unaffected.

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes /** **No**
Comments: Sample 09FROBWA-08 had a pH greater than 2.

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments: Discrepancies were documented, but nobody was notified.

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: None of the anomalies noted affected data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments: Several analytes were manually integrated.

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments: No duplicate or MSD was analyzed for metals.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: We have no measure of analytical precision for the metals results; see field-duplicate RPDs for a measure of overall precision.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-04*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: See SDGs containing field-duplicates for assessment of precision.

iv. Data quality or usability affected? Explain. ***NA*** See above.

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-08.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Nitrate and toluene were detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: Nitrate results in samples *09FROBWA-06* and *09FROBWA-07* was less than 5-times the concentration the EB; these results may be attributable to contamination from sampling equipment. Remaining results were either non-detect or greater than 5-times the EB concentrations.

iii. Data quality or usability affected? Explain. ***NA***
Comments: See above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 28, 2009

Laboratory Report Date: June 26, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092275

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments: Methane/ethane/ethene samples were at 8 °C upon arrival at Columbia Analytical Services in Simi Valley, CA.

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain ***NA***
Comments: Methane/ethane/ethene results should be considered biased low (J-) due to elevated temperatures, and reporting limits flagged UJ.

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: None of the anomalies noted affected data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments: Some analytes were manually integrated.

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the

laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-09*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs?
(Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: See SDGs containing field-duplicates for assessment of precision.

iv. Data quality or usability affected? Explain. ***NA*** See above.

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-14.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Sulfate and toluene were detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: The analytes listed above were either below MDLs in project samples or greater than 5-times the concentration detected in the equipment blank.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 28, 2009

Laboratory Report Date: June 26, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092302

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments: Methane/ethane/ethene samples were at 8 °C upon arrival at Columbia Analytical Services in Simi Valley, CA.

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments: Methane/ethane/ethene results should be considered biased low (J-) due to elevated temperatures, and reporting limits flagged UJ.

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: None of the anomalies noted affected data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-15*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

a. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: See SDGs containing field-duplicates for assessment of precision.

iv. Data quality or usability affected? Explain. ***NA*** See above.

b. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-19.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Sulfate and toluene were detected between the MDL and the PQL, and methane was detected above the PQL..

ii. If results are above PQL, what samples are affected? ***NA***
Comments: These analytes were either not detected in project samples or were greater than 5-times the concentration detected in the equipment blank.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 29, 2009

Laboratory Report Date: June 26, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092330

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: None of the anomalies noted affected data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments: One or more analytes were manually integrated.

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments: A billable/project MS/MSD was analyzed as well (from original sample *09FROBWA-23*).

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-20*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

a. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively. Field-duplicate pair *09FROBWA-21/09FROBWA-22* is assessed here.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: RPDs for carbon tetrachloride and tetrachloroethylene (PCE) were above the DQO of 15% for VOCs. Remaining five VOC analytes, metals, and anions had acceptable RPDs.

iv. Data quality or usability affected? Explain. ***NA*** Results for the two VOC analytes listed above should be considered estimates (flagged J) in the original and duplicate.

b. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-25.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Toluene was detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: Toluene was not detected in project samples.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 29, 2009

Laboratory Report Date: June 30, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092382

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments: Sample *09FROBWA-30* had a pH greater than 2 (noted in case narrative).

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: MS recovery of sulfate was low; remaining anomalies noted did not affect data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments: One or more analytes were manually integrated.

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments: A billable/project MS/MSD was analyzed as well (from original sample *09FROBWA-27*).

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101

60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: Carbon tetrachloride was recovered above laboratory control limits in the BMS, MS, and LCSD, and sulfate was recovered below laboratory control limits in the MS.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments: Carbon tetrachloride was not detected in project samples, and the sulfate MS original is not in our sample set for this SDG, so results are unaffected.

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-26*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

a. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively. Field-duplicate pair *09FROBWA-30/09FROBWA-31* is assessed here.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: RPDs for 1,1-dichloroethene and trans-1,2-dichloroethene were above the DQO of 15% for VOCs. Remaining five VOC analytes, metals, and anions had acceptable RPDs.

iv. Data quality or usability affected? Explain. ***NA*** Results for the two VOC analytes listed above should be considered estimates (flagged J) in the original and duplicate.

b. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-32.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Trichloroethene (TCE) and methane were detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: These analytes were either not detected in project samples or were greater than 5-times the concentration detected in the equipment blank.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B
Date: July 29, 2009

Laboratory Report Date: June 30, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1092416

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Methane was analyzed by Columbia Analytical Services in Simi Valley, CA; ADEC certification not required for RSK175.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:**

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: ICV recovery of vinyl chloride was above laboratory control limits; positive results are biased high (J+). Remaining anomalies noted did not have an effect on data quality or usability.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments: One or more analytes were manually integrated.

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments: See above.

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and ethylene dibromide were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments: No duplicate or MSD was analyzed for metals.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the

laboratory QC pages) **Yes / No**
Comments:

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS/LCSD RPD for chloromethane was greater than the laboratory control limit of 20%.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments: Chloromethane was not detected in project samples.

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: We cannot assess analytical precision for the metals analysis; for overall precision, see field-duplicate assessment.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments: Surrogates were not reported for the RSK175 analysis.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: Trip blank was *09FROBWA-33*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments**:**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

a. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pairs were *09FROBWA-21/09FROBWA-22*, *09FROBWA-30/09FROBWA-31*, and *09FROBWA-34/09FROBWA-35* analyzed in SDGs 1092330, 1092382, and 1092416, respectively. Field-duplicate pair *09FROBWA-34/09FROBWA-35* is assessed here.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

b. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Note: EB was *09FROBWA-43.***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Trichloroethene and o-xylene were detected between the MDL and the PQL.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: These analytes were either not detected in project samples or were greater than 5-times the concentration detected in the equipment blank.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No** Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: October 28, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095391

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments:

b. Correct analyses requested? **Yes / No**
Comments: Chloride was listed on the COC to be analyzed by EPA Method 300.0 as specified in the sampling plan; however, in previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: CCV recovery of dichlorodifluoromethane in analytical batch VMS10911 and bromomethane and 2,2-dichloropropane in analytical batch VMS10922 were below laboratory QC limits. Batch VMS10922 was not used in this SDG; the laboratory noted this CCV failure in error. The laboratory also notes that LCS recovery of 2,2-dichloropropane was below laboratory QC limits for prep batch VXX20106; this batch was not used in association with our project samples, so our results are unaffected. While the laboratory did not note an effect on sample results (with the exception of estimated dichlorodifluoromethane results), we consider the dichlorodifluoromethane results associated with the low CCV recovery affected by a low bias, flagging positive results J- and non-detects UJ. The remaining QC anomalies noted in the case narrative did not affect data quality.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS recovery of the following VOC analytes was above the upper laboratory QC limit for one or more prep batches: acetone; bromodichloromethane; 2-butanone; bromoform; carbon tetrachloride; 2-hexanone; and 1,1,1-trichloroethane. Recovery of multiple VOCs were outside QC limits for stand-in MS/MSDs.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS/LCSD RPD was above the QC limit for acetone and 2-hexanone for one QC batch.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments: Original samples spiked for the MS/MSDs were not in our project sample set, so results were unaffected by MS/MSD recovery/RPD failures. Analytes with elevated LCS recovery or LCS/LCSD RPDs were not detected in project samples.

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** / **Yes** / **No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** / **Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** / **Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** / **Yes** / **No**
Comments: The trip blank was sample *09FROBWA-01*

ii. All results less than PQL? ***NA*** / **Yes** / **No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples? **Yes** / **No**
Comments: OUB field-duplicate samples were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37*, analyzed in SDGs 1095502 and 1095529. Checklists for these SDGs include the details of our assessment of field-duplicate precision.

ii. Were the field duplicates submitted blind to the lab? ***NA*** / **Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) ***NA*** / **Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Comments: EB was sample *09FROBWA-05***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Chloride was detected above the PQL at 134 µg/L. Chloroform was detected between the MDL and PQL at 0.510 J µg/L.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: Chloride results for project samples were greater than 5 times the concentration in the EB. Chloroform was detected in sample *09FROBWA-06* at less than 10 times the concentration in the EB (chloroform is a common laboratory contaminant, per the QAPP), and is therefore attributable to equipment-based contamination.

iii. Data quality or usability affected? Explain. ***NA***
Comments: The chloroform result noted above is flagged U as not detected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: October 27, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095418

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments: In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality, with the exception of low CCV recovery of dichlorodifluoromethane. Dichlorodifluoromethane was not detected in project samples; we flag associated PQLs UJ to indicate the non-detect results may be due to a low bias.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments: The laboratory notes that results associated with the low CCV recovery are considered estimated.

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes /** **No**
Comments: An LCS was reported for metals analysis, but no duplicates were analyzed so precision cannot be assessed.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes /** **No**
Comments: Recovery was outside laboratory QC limits for multiple analytes for the stand-in MS/MSDs; original spiked samples were not in our project sample set, so our results are unaffected. Carbon tetrachloride was recovered above laboratory QC limits in the LCS; it was not detected in project samples, so results were unaffected.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes /** **No**
Comments: MS/MSD RPD for 1,1,1-trichloroethane was above the laboratory QC limit; the original spiked sample were not in our project sample set, so our results are unaffected.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: We cannot assess the precision of the metals analysis for this SDG. In general, field-duplicate RPDs show metals analyses to be precise for this project.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/** **Yes** **/ No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/** **Yes** **/ No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: The trip blank was sample *09FROBWA-07*.

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate samples were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37*, analyzed in SDGs 1095502 and 1095529. Checklists for these SDGs include the details of our assessment of field-duplicate precision.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Comments: EB was sample *09FROBWA-11***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Chloride was detected above the PQL at 423 µg/L. Sulfate and

chloroform were detected between the MDL and PQL, at 37.0 J µg/L and 0.600 J µg/L, respectively.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: Chloroform was not detected in the associated project samples. Chloride and sulfate were greater than 5 times the concentration detected in the EB.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: November 3, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095449

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments**:** In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments: Temperature blank was within range, but cooler temperature was low at 1.6 °C. No ice was observed in samples, so results were unaffected.

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality, with the exception of low CCV recovery of dichlorodifluoromethane. Dichlorodifluoromethane was not detected in project samples; we flag associated PQLs UJ to indicate the non-detect results may be due to a low bias.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments: The laboratory notes that results associated with the low CCV recovery are considered estimated.

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected. The carbon tetrachloride PQL for sample *09FROBWA-13* was above the reporting limit objective and the ADEC Table C groundwater cleanup level; we cannot determine if carbon tetrachloride was present above cleanup levels but below the PQL.

e. Data quality or usability affected? Explain. ***NA***
Comments: Results are affected as described above.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**

Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes /** **No**
Comments: An LCS was reported for metals analysis, but no duplicates were analyzed so precision cannot be assessed.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes** / **No**
Comments: Multiple analytes were recovered outside laboratory control limits in the stand-in VOC MS/MSD; the spiked sample was not in our project sample set, so our results are unaffected. Multiple VOC analytes were recovered above laboratory control limits in one or more LCS/LCSD. Of these VOCs, carbon tetrachloride was the only analyte detected in a corresponding project sample. The carbon tetrachloride result for sample *09FROBWA-15* should be considered biased high and is flagged J+ in Table 2; remaining analytes were not detected in corresponding project samples.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes** / **No**
Comments: RPD for 1,1,1-trichloroethane was above laboratory control limits in the stand-in MS/MSD and the LCS/LCSD; this analyte was not detected in project samples, so results were unaffected.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments: See above.

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes /** **No**
Comments: The laboratory did not flag the carbon tetrachloride result noted above.

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: Results are affected as described above.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** / **Yes** / **No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** / **Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** / **Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** / **Yes** / **No**
Comments: The trip blank was sample *09FROBWA-12*.

ii. All results less than PQL? ***NA*** / **Yes** / **No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples? **Yes** / **No**
Comments: OUB field-duplicate samples were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37*, analyzed in SDGs 1095502 and 1095529. Checklists for these SDGs include the details of our assessment of field-duplicate precision.

ii. Were the field duplicates submitted blind to the lab? ***NA*** / **Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) ***NA*** / **Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

f. Decontamination or Equipment Blank (EB) (if applicable)
NA* / Yes / No Comments: EB was sample *09FROBWA-16

i. All results less than PQL? ***NA* / Yes / No**
Comments: Chloroform was detected between the MDL and PQL, at 0.620 J µg/L.

ii. If results are above PQL, what samples are affected? ***NA***
Comments: The chloroform result for sample *09FROBWA-13* was less than 5 times the concentration in the EB, and is therefore attributable to equipment-based contamination.

iii. Data quality or usability affected? Explain. ***NA***
Comments: The chloroform result for sample *09FROBWA-13* is flagged U as not detected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: November 3, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095470

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments: In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected. PQLs for carbon tetrachloride and tetrachloroethene were above ADEC Table C groundwater cleanup levels and the reporting limit objectives in the QAPP for samples *09FROBWA-18*, *09FROBWA-19*, and *09FROBWA-22*; we cannot determine if these analytes were above cleanup levels and reporting limit objectives for the listed samples.

e. Data quality or usability affected? Explain. ***NA***
Comments: Results are affected as described above.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**

Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: Several VOC analytes were recovered above laboratory QC limits in the LCS/LCSD; these analytes were not detected in project samples, so our results were unaffected.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS/LCSD RPDs were above the QC limit for 1,1,1,-trichloroethane and carbon tetrachloride; these analytes were not detected in project samples, so results were unaffected.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: The trip blank was sample *09FROBWA-17*

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate samples were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37*, analyzed in SDGs 1095502 and 1095529. Checklists for these SDGs include the details of our assessment of field-duplicate precision.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Comments: EB was sample *09FROBWA-21***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Chloride was detected above the PQL at 177 µg/L. Three analytes were detected between the MDL and the PQL: sulfate (42.0 J µg/L); 1,1,2,2-tetrachloroethane (0.430 J µg/L); and trichloroethene (0.570 J µg/L).

ii. If results are above PQL, what samples are affected? ***NA***
Comments: These analytes were either not detected in project samples or were greater than 5 times the concentration in the EB.

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: November 11, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095502

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments: In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected.

e. Data quality or usability affected? Explain. ***NA***
Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101

60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS/LCSD recovery of several analytes were above laboratory control limits for one QC batch; these analytes were not detected in the corresponding project sample, so our results were unaffected.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments:

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: The trip blank was sample *09FROBWA-23*

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate pair *09FROBWA-24/09FROBWA-25* was analyzed in this work order. RPDs are assessed here.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes / No**
Comments: RPD for trans-1,2-dichloroethene was above the DQO of 15%. However, per the CH2MHill QAPP, trans-1,2-dichloroethene was less than 5 times the PQL in both sample and duplicate, and the difference between the results was less than 2 times the PQL, so the results are unaffected. RPDs for the other three VOC analytes and three anions detected in the sample and duplicate were within DQOs.

iv. Data quality or usability affected? Explain. ***NA***
Comments:

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Comments: EB was sample *09FROBWA-29***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

ii. If results are above PQL, what samples are affected? ***NA***
Comments:

iii. Data quality or usability affected? Explain. ***NA***
Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: November 4, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095529

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments: In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality. The laboratory noted a low LCS recovery of 2,2-dichloropropane and a low CCV recovery of bromomethane and 2,2-dichloropropane, but these analytes were not reported from the QC batches with the low recoveries, so our results were unaffected.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected. PQLs for bromomethane and tetrachloroethene for samples *09FROBWA-35* and *09FROBWA-36* were above their ADEC Table C groundwater cleanup levels and the reporting limit objectives from the QAPP.

e. Data quality or usability affected? Explain. ***NA***
Comments: We cannot determine if the bromomethane and tetrachloroethene were present below the PQL but above the cleanup level in the samples listed above.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments: Tetrachloroethene (PCE) was detected at 3.25 µg/L and trichloroethene (TCE) was detected at 1.09 µg/L in the method blank for prep batch VXX20106. No project samples were in the same prep batch, but the equipment blank was.

iii. If above PQL, what samples are affected? ***NA***
Comments: PCE and TCE results for the equipment blank (EB) may be attributable to laboratory-based contamination. Since EB results are not reported, they are not flagged or included in Table 2, but PCE and TCE are not factored into assessment of the EB due to the MB detections.

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments: The laboratory did not flag the PCE and TCE results for the EB.

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments: As noted above, the PCE and TCE in the EB is attributable to laboratory-based contamination.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments: A BMS/BMSD was also analyzed/reported in this SDG.

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes / No**
Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: LCS/LCSD recovery of several VOC analytes were above laboratory control limits; these analytes were not detected in the corresponding sample (the trip blank), so results were unaffected. LCS recovery of 1,1,2,2-tetrachloroethane was below laboratory control limits; the 1,1,2,2-tetrachloroethane result in the corresponding sample (*09FROBWA-36*) is biased low, and flagged J- in Table 2. BMSD recovery of methane was above laboratory control limits; the methane result for the sample spiked for the BMS/BMSD (*09FROBWA-34*) is considered estimated, biased high and is flagged J+.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments: MS/MSD and BMS/BMSD RPD for bromochloromethane was above the laboratory QC limit; the analyte was not detected in the sample spiked for the BMS/BMSD, and the sample spiked for the MS/MSD was not in our project sample set, so our results are unaffected. LCS/LCSD RPD for bromomethane was above the laboratory QC limit; bromomethane was not detected in corresponding project samples, so our results were unaffected. BMS/BMSD RPD for methane was above the laboratory control limit; the corresponding project-sample result is flagged J+ as described above.

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments: As noted above.

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments: The laboratory did not flag the 1,1,2,2-tetrachloroethane result.

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: Results affected as noted above.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/ Yes / No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/ Yes / No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: The trip blank was sample *09FROBWA-30*

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate samples *09FROBWA-31/09FROBWA-32* and *09FROBWA-36/09FROBWA-37* were analyzed in this SDG. They are assessed here.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: see QAPP) ***NA*** **/ Yes /** (**No**)
Comments: RPDs for *09FROBWA-31/09FROBWA-32* were within DQOs. RPDs for anions, metals, and six of nine VOCs detected in both sample/duplicate were within DQOs for *09FROBWA-36/09FROBWA-37*. RPDs for the following VOC analytes exceeded the DQO of 15%: 1,1,2,2-tetrachloroethane (101%); cis-1,2-dichloroethene (121%); and trichloroethene (59%). Results for these analytes are flagged J as estimates for samples *09FROBWA-36* and *09FROBWA-37* (1,1,2,2-tetrachloroethene result for sample *09FROBWA-36* is already flagged J-, a more conservative flag, due to low LCS recovery).

iv. Data quality or usability affected? (Explain) ***NA***
Comments: Results affected as described above

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/** (**Yes**) **/ No** **Comments: EB was sample *09FROBWA-38***

i. All results less than PQL? ***NA*** **/** (**Yes**) **/ No**
Comments: Sulfate; 1,1,2,2,-trichloroethane; chloroform; trichloroethene; and tetrachloroethene were detected between the MDL and the PQL in the EB.

ii. If results are above PQL, what samples are affected? (***NA***)
Comments: The following results may be attributable to equipment-based contamination (where the above analyte was detected but was less than 5 times the EB concentration): sulfate in *09FROBWA-34*; 1,1,2,2-trichloroethane in *09FROBWA-33*; and chloroform in *09FROBWA-35*, *09FROBWA-36*, and *09FROBWA-37*. As noted above, PCE and TCE detected in the EB were attributable to laboratory-based contamination due to the MB detections, and so PCE and TCE results in project samples are not affected by the EB. Affected results (for sulfate, 1,1,2,2-trichloroethane, and chloroform, noted above) are flagged U as non-detect; remaining results were unaffected by the EB detections.

iii. Data quality or usability affected? (Explain) ***NA***
Comments: Results affected as described above.

7. <u>Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)</u>

a. Are they defined and appropriate? (***NA***) **/ Yes / No**
Comments:

LABORATORY DATA REVIEW CHECKLIST

CS Report Name: Fort Richardson Groundwater Monitoring – Operable Unit B

Laboratory Report Date: November 4, 2009

Consultant Firm: Shannon & Wilson, Inc.

Completed by: Rodney Guritz
Title: Environmental Chemist
Date: December 2, 2009

Laboratory Name: SGS Environmental Services, Inc.
SGS Work Order Number: 1095547

ADEC File Number: 2102.38.002

(**NOTE**: ***NA*** = not applicable; Text in *italics* added by Shannon & Wilson, Inc.)

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? **Yes / No**
Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-approved?
NA **/ Yes / No**
Comments: Samples were shipped to Columbia Analytical Services in Simi Valley, California for analysis of methane, ethane, and ethene by method RSK 175. ADEC does not require laboratory certification for this analysis.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?
Yes / No
Comments**:**

b. Correct analyses requested? **Yes / No**
Comments: In previous sampling events chloride was analyzed by EPA Method 9056A, and so this method was used for OUB SDGs for this sampling event to provide comparable results, with the approval of the USACE chemist.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
Yes / No
Comments:

b. Sample preservation acceptable - acidified waters, methanol-preserved VOC soil (GRO, BTEX, VOCs, etc.)? ***NA*** **/ Yes / No**
Comments:

c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? **Yes / No**
Comments: **No problems.**

d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? ***NA*** **/ Yes / No**
Comments:

e. Data quality or usability affected? Explain. ***NA***
Comments:

4. Case Narrative

a. Present and understandable? **Yes / No**
Comments:

b. Discrepancies, errors or QC failures noted by the lab? ***None Noted*** **/ Yes**
Comments: The QC anomalies identified did not affect data quality.

c. Were corrective actions documented? ***None Noted*** **/ Yes**
Comments:

d. What is the effect on data quality/usability, according to the case narrative? ***NA***
Comments:

5. Sample Results

a. Correct analyses performed/reported as requested on COC? **Yes / No**
Comments:

b. All applicable holding times met? **Yes / No**
Comments:

c. All soils reported on a dry-weight basis? ***NA*** **/ Yes / No**
Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project? **Yes / No**
Comments: PQLs for 1,2,3-trichloropropane and 1,2-dibromoethane were above the respective ADEC Table C groundwater cleanup levels; the PQLs met the reporting limit objectives specified in the QAPP, and these analytes are not a focus of this project, so data usability is not affected. The PQL for bromomethane was above the cleanup level and the reporting limit objective for samples *09FROBWA-40* and *09FROBWA-41*, and the PQL for vinyl chloride was above the cleanup level and reporting limit objective for *09FROBWA-41*.

e. Data quality or usability affected? Explain. ***NA***
Comments: We cannot determine if these analytes were present below the PQL but above the cleanup level in the samples listed above.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis, and 20 samples?
Yes / No
Comments:

ii. All method blank results less than PQL? **Yes / No**
Comments: Cis-1,2-dichloroethene was detected between the MDL and PQL at 0.550 J µg/L.

iii. If above PQL, what samples are affected? ***NA***
Comments: Cis-1,2-dichloroethene was either not detected in project samples or was greater than 5 times the MB concentration.

iv. Do the affected sample(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

v. Data quality or usability affected? Explain. ***NA***
Comments:

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis, and 20 samples?
(LCS/LCSD required per AK methods, LCS required per SW846) ***N/A*** **/ Yes / No**
Comments:

ii. Metals/Inorganics - One LCS and one matrix spike/matrix spike duplicate or sample duplicate reported per matrix, analysis and 20 samples? ***NA*** **/ Yes /** **No**
Comments: No MS/MSD or sample duplicates were reported for the metals analysis.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs, if applicable)? (AK petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages) **Yes /** **No**
Comments: LCS/LCSD recovery of acetone and 2-butanone was above laboratory control limits; these analytes were not detected in project samples, so results were unaffected.

iv. Precision – All relative percent differences (RPDs) reported and less than method or laboratory limits (and project specified DQOs, if applicable)? RPD reported from LCS/LCSD and/or MS/MSD. (AK petroleum methods 20%; all other analyses see the laboratory QC pages) **Yes / No**
Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected? **NA**
Comments:

vi. Do the affected samples(s) have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**
Comments:

vii. Data quality or usability affected? Explain. ***NA***
Comments: We cannot assess the precision of the metals analysis for this SDG. In general, field-duplicate RPDs show metals analyses to be precise for this project.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses, field, QC and laboratory samples? ***NA*** **/** **Yes** **/ No**
Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits (and project specified DQOs if applicable)? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages) ***NA*** **/** **Yes** **/ No**
Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? ***NA*** **/ Yes / No**
Comments:

If so, are the data flags clearly defined? ***NA*** **/ Yes / No**

iv. Data quality or usability affected? Explain. ***NA***
Comments:

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

i. One trip blank reported per matrix, analysis and cooler? ***NA*** **/ Yes / No**
Comments: The trip blank was sample *09FROBWA-39*

ii. All results less than PQL? ***NA*** **/ Yes / No**
Comments:

iii. If above PQL, what samples are affected? ***NA***
Comments:

iv. Data quality or usability affected? Explain. ***NA***
Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
Yes / No
Comments: OUB field-duplicate samples were *09FROBWA-24/09FROBWA-25*, *09FROBWA-31/09FROBWA-32*, and *09FROBWA-36/09FROBWA-37*, analyzed in SDGs 1095502 and 1095529. Checklists for these SDGs include the details of our assessment of field-duplicate precision.

ii. Were the field duplicates submitted blind to the lab? ***NA*** **/ Yes / No**
Comments:

iii. Precision – All relative percent differences (RPDs) less than specified DQOs? (Recommended: 30% for water, 50% for soil) ***NA*** **/ Yes / No**
Comments:

iv. Data quality or usability affected? Explain. ***NA***

f. Decontamination or Equipment Blank (EB) (if applicable)
NA **/ Yes / No Comments: EB was sample *09FROBWA-42***

i. All results less than PQL? ***NA*** **/ Yes / No**
Comments: Chloroform and trichloroethene were detected between the MDL and the PQL in the EB. Trichloroethene results for project samples were greater than 5 times the concentration in the EB. Chloroform results for samples *09FROBWA-40* and *09FROBWA-41* were less than 5 times the EB concentration, and therefore attributable to equipment-based contamination (flagged U).

ii. If results are above PQL, what samples are affected? ***NA***
Comments: See above.

iii. Data quality or usability affected? Explain. ***NA***
Comments: Results affected as described above.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab-specific, etc.)

a. Are they defined and appropriate? ***NA*** **/ Yes / No**
Comments:

Appendix B4
COCs and Sample Receipts

1092236

SHORT HOLDING

SHANNON & WILSON, INC. CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory SGS
Attn: Heidi Carr

Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (624 & 8260)	3 x VOAs HCl-preserved	Methane, ethane, ethene (RSK-175) 3 x VOAs HCl-preserved	Dissolved Fe & Mn (SW 6020) Acidified	NO_2/NO_3, SO_4, Cl (SW 9056 - EPA 300.0)	Total Number of Containers	Remarks/Matrix
09FROBWA-01	③ A-C	1200	5/26/09		✓	✓					3	Trip blank
09FROBWA-02	① A-H	1528	"		✓	✓	✓	✓	✓		8	Water; metals field filtered
09FROWWA-03	② A-H	1555	"		✓	✓	✓	✓	✓		8	"

Project Information		Sample Receipt	
Project Number:	32-1-17261	Total Number of Containers	
Project Name:	Ft. Rich - OUB	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☑ No ☐	Delivery Method:	
Sampler:	Joe Thomas	(attach shipping bill, if any)	

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 815	Signature: Time: 13:30	Signature: Time:
Printed Name: Joe Thomas Date: 5/27/09	Printed Name: Haydar Turker Date: 5/27/09	Printed Name: Date:
Company: Shannon & Wilson	Company: S & W	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 8:15	Signature: Time:	Signature: Time: 1330
Printed Name: Haydar Turker Date: 5/27/09	Printed Name: Date:	Printed Name: Date: 5-27-09
Company: S & W	Company:	Company: SGS

Instructions	
Requested Turnaround Time:	Standard
Special Instructions:	USACE/Corps Task order 001 Contract: W911KB-08-D-0005 NPDL 09-005

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

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F-19-91/UR Cooler #31

#7 2.7

No. 28680

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	5/13/09	1092008	1	09FROAWA-02	5/12/09	13:30	AP3870	WG
				2	09FROAWA-03	5/12/09	16:00	AP3893	WG
				3	09FROAWA-04	5/12/09	16:30	EBOUE01	WQ
				4	09FROAWA-01	5/12/09	13:00	TB01	WQ
	02	5/14/09	1092030	1	09FROAWA-06	5/13/09	10:42	AP3774	WG
				2	09FROAWA-07	5/13/09	12:26	AP3871	WG
				3,4,5	09FROAWA-08	5/13/09	16:50	AP3534	WG
				6	09FROAWA-09	5/13/09	17:28	EBOUE02	WQ
				7	09FROAWA-05	5/13/09	10:00	TB02	WQ
	03	5/15/09	1092046	1	09FROAWA-11	5/14/09	13:40	AP3468	WG
				2	09FROAWA-12	5/14/09	17:49	AP4341	WG
				3	09FROAWA-13	5/14/09	18:00	EBOUE03	WQ
				4	09FROAWA-10	5/14/09	12:00	TB03	WQ
	04	5/15/09	1092063	1	09FROAWA-15	5/15/09	11:40	AP4342	WG
				2	09FROAWA-16	5/15/09	13:14	AP4413	WG
				3	09FROAWA-17	5/15/09	13:16	AP9413	WG
				4	09FROAWA-18	5/15/09	14:26	AP4411	WG
				5	09FROAWA-19	5/15/09	14:00	EBOUE04	WQ
				6	09FROAWA-14	5/15/09	11:00	TB04	WQ
09-007	21	5/19/09	1092100		09FR76WA-02	5/18/09	11:00	AP5004	WG
					09FR76WA-03	5/18/09	11:05	AP9004	WG
					09FR76WA-01	5/18/09	10:00	TB21	WQ
	22				09FR76WA-04	5/18/09	13:40	AP5038	WG
					09FR76WA-07	5/18/09	10:01	TB22	WQ
	23				09FR76WA-05	5/18/09	16:05	AP5000	WG
					09FR76WA-06	5/18/09	16:40	EB76223	WQ
					09FR76WA-08	5/18/09	10:02	TB23	WQ
	24	5/22/09			09FR76WA-10 (08)*	5/22/09	11:46	AP5002	WG
					09FR76WA-11 (09)*	5/22/09	12:15	EB76224	WQ
					09FR76WA-09 (07)*	5/22/09	11:00	TB24	WQ
09-008	11	5/20/09	1092127	1	09FR78WA-02	5/19/09	14:03	AP4536	WG
				5	09FR78WA-04	5/19/09	17:25	EB78611	WG
				6	09FR78WA-01	5/19/09	12:00	TB11	WQ
	12			2	09FR78WA-03	5/19/09	16:26	AP5009	WG
				7	09FR78WA-05	5/19/09	12:01	TB12	WQ
	13	5/21/09	1092156	1	09FR78WA-07	5/20/09	12:12	AP4537	WG
				2	09FR78WA-08	5/20/09	14:13	AP4535	WG
				5	09FR78WA-06	5/20/09	12:00	TB13	WQ
	14			3	09FR78WA-10	5/20/09	15:47	AP5008	WG
				4	09FR78WA-11	5/20/09	16:15	EB78614	WQ
				6	09FR78WA-09	5/20/09	12:01	TB14	WQ
	15	5/22/09	1092173	1	09FR78WA-13	5/21/09	9:51	AP4529	WG
				2	09FR78WA-14	5/21/09	9:55	AP9529	WG
				5	09FR78WA-12	5/21/09	9:00	TB15	WQ
	16			3	09FR78WA-16	5/21/09	14:25	AP5001	WG
				4	09FR78WA-17	5/21/09	14:55	EB78616	WQ
				6	09FR78WA-15	5/21/09	9:01	TB16	WQ
	17	5/22/09			09FR78WA-19	5/22/09	14:20	AP5007	WG
					09FR78WA-20	5/22/09	15:00	EB78617	WQ
					09FR78WA-18	5/22/09	12:00	TB17	WQ

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	31	5/27/09	1092236		09FROBWA-02	5/26/09	15:28	AP3749	WG
					09FROBWA-03	5/26/09	15:55	EBOUB31	WQ
					09FROBWA-01	5/26/09	12:00	TB31	WQ
	32	5/28/09	1092246		09FROBWA-05	5/27/09	10:40	AP4019	WG
					09FROBWA-06	5/27/09	12:53	AP3982	WG
					09FROBWA-07	5/27/09	15:16	AP4354	WG
					09FROBWA-08	5/27/09	17:00	EBOUB32	WQ
					09FROBWA-04	5/27/09	10:00	TB32	WQ
	33	5/29/09	1092275		09FROBWA-10	5/28/09	10:38	AP4350	WG
					09FROBWA-11	5/28/09	12:00	AP4345	WG
					09FROBWA-12	5/28/09	14:00	AP5246	WG
					09FROBWA-13	5/28/09	15:22	AP3748	WG
					09FROBWA-14	5/28/09	15:46	EBOUB33	WQ
					09FROBWA-09	5/28/09	10:00	TB33	WQ
	34	5/29/09	1092302		09FROBWA-16	5/29/09	11:55	AP4518	WG
					09FROBWA-17	5/29/09	12:56	AP4344	WG
					09FROBWA-18	5/29/09	15:01	AP3981	WG
					09FROBWA-19	5/29/09	15:20	EBOUB34	WQ
					09FROBWA-15	5/29/09	11:00	TB34	WQ
	35	6/2/09	1092330		09FROBWA-21	6/1/09	12:50	AP3984	WG
					09FROBWA-22	6/1/09	12:52	AP9984	WG
					09FROBWA-23	6/1/09	14:03	AP3745	WG
					09FROBWA-24	6/1/09	15:48	AP4011	WG
					09FROBWA-25	6/1/09	16:10	EBOUB35	WQ
					09FROBWA-20	6/1/09	12:00	TB35	WQ
	36	6/3/09			09FROBWA-27	6/2/09	9:55	AP3744	WG
					09FROBWA-28	6/2/09	11:45	AP3989	WG
					09FROBWA-29	6/2/09	13:55	AP3747	WG
					09FROBWA-30	6/2/09	16:10	AP4519	WG
					09FROBWA-31	6/2/09	16:15	AP9519	WG
					09FROBWA-32	6/2/09	16:30	EBOUB36	WQ
					09FROBWA-26	6/2/09	9:00	TB36	WQ
	* 07, 08, and 09, which are listed on the COC, should be 09, 10, and 11, respectively.								

1092236

SGS

SAMPLE RECEIPT FORM

SGS WO#: _____

SHORT HOLDING

Yes	No	NA		
✓			Are samples **RUSH** priority or *w/in 72 hrs* of hold time?	**TAT (circle one):** (Standard) -or- Rush
✓			If yes, have you done *e-mail ALERT notification*?	**Received Date:** 5-27-09
✓			Are samples *within 24 hrs.* of **hold time** or **due date**?	**Received Time:** 1330
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:** _____	
		✓	Payment received: $_____ by Check or Credit Card	
		✓	Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / (3) / 4)	
			Notes: COELT	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
1	2.7 °C	#7
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: *(√if applicable)*
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved _____
_____ Ref Lab required for _____
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		Bubble Wrap Vermiculite Other (specify): _____
	✓	Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____
Via: Phone / Fax / E-mail (*circle one*)
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ (print): JULIA ROCCHETTY

Login proof: Self-check completed ✓ Peer-reviewer's Initials JR

SGS

1092236

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1,2	A-C	1	VOC 8260								6		✓					✓			✓								
	D-F		METHANE								6		✓					✓			✓								
	G		NO_2 NO_3, Cl, SO_4							2						✓				✓									
	H		Fe, Mn					2							✓							✓							
3	A-C	1	VOC 8260								3		✓					✓			✓								

1092246

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
~~(314) 699-9600~~

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

CHAIN-OF-CUSTODY RECORD

SHORT HOLDING

HNO3 preserved

Page 1 of 1

Laboratory SGS
Attn: Heidi Geri

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B) 3xVOAs HCl-pres.	Methane, Ethane, Propane 3xVOAs HCl-pres.	Dissolved Metals (Fe+Mn) SW6020	NO2/NO3 Cl SW 9056 SO4 EPA 300.0			Total Number of Containers	Remarks/Matrix
09FROBWA-04	(5) A-C	1000	5/27/09		✓	✓						3	Trip blank
09FROBWA-05	(1) A-H	1040	"		✓	✓	✓	✓	✓			9	Water
09FROBWA-06	(2)	1253	"		✓	✓	✓	✓	✓			9	"
09FROBWA-07	(3)	1516	"		✓	✓	✓	✓	✓			8	"
09FROBWA-08	(4)	1700	"		✓	✓	✓	✓	✓			8	"
~~09FROBWA-09~~													

Project Information	Sample Receipt
Project Number: 32-1-17261	Total Number of Containers
Project Name: Ft. Rich, OUB	COC Seals/Intact? Y/N/NA
Contact: Haydar Turker	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler: Joe Thomas	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Standard
Special Instructions: USACE/Corps Task Order 001 Contract: W911KB-08-D-0005 NPDL 09-0005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 802	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 5/28/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon&Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 0901
Printed Name: Date:	Printed Name: Date:	Printed Name: James Doggett Date: 5-28-09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #32 #7 TB = 13

No. 28685

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	5/13/09	1092008	1	09FROAWA-02	5/12/09	13:30	AP3870	WG
				2	09FROAWA-03	5/12/09	16:00	AP3893	WG
				3	09FROAWA-04	5/12/09	16:30	EBOUE01	WQ
				4	09FROAWA-01	5/12/09	13:00	TB01	WQ
	02	5/14/09	1092030	1	09FROAWA-06	5/13/09	10:42	AP3774	WG
				2	09FROAWA-07	5/13/09	12:26	AP3871	WG
				3,4,5	09FROAWA-08	5/13/09	16:50	AP3534	WG
				6	09FROAWA-09	5/13/09	17:28	EBOUE02	WQ
				7	09FROAWA-05	5/13/09	10:00	TB02	WQ
	03	5/15/09	1092046	1	09FROAWA-11	5/14/09	13:40	AP3468	WG
				2	09FROAWA-12	5/14/09	17:49	AP4341	WG
				3	09FROAWA-13	5/14/09	18:00	EBOUE03	WQ
				4	09FROAWA-10	5/14/09	12:00	TB03	WQ
	04	5/15/09	1092063	1	09FROAWA-15	5/15/09	11:40	AP4342	WG
				2	09FROAWA-16	5/15/09	13:14	AP4413	WG
				3	09FROAWA-17	5/15/09	13:16	AP9413	WG
				4	09FROAWA-18	5/15/09	14:26	AP4411	WG
				5	09FROAWA-19	5/15/09	14:00	EBOUE04	WQ
				6	09FROAWA-14	5/15/09	11:00	TB04	WQ
09-007	21	5/19/09	1092100		09FR76WA-02	5/18/09	11:00	AP5004	WG
					09FR76WA-03	5/18/09	11:05	AP9004	WG
					09FR76WA-01	5/18/09	10:00	TB21	WQ
	22				09FR76WA-04	5/18/09	13:40	AP5038	WG
					09FR76WA-07	5/18/09	10:01	TB22	WQ
	23				09FR76WA-05	5/18/09	16:05	AP5000	WG
					09FR76WA-06	5/18/09	16:40	EB76223	WQ
					09FR76WA-08	5/18/09	10:02	TB23	WQ
	24	5/22/09			09FR76WA-10 (08)*	5/22/09	11:46	AP5002	WG
					09FR76WA-11 (09)*	5/22/09	12:15	EB76224	WQ
					09FR76WA-09 (07)*	5/22/09	11:00	TB24	WQ
09-008	11	5/20/09	1092127	1	09FR78WA-02	5/19/09	14:03	AP4536	WG
				5	09FR78WA-04	5/19/09	17:25	EB78611	WG
				6	09FR78WA-01	5/19/09	12:00	TB11	WQ
	12			2	09FR78WA-03	5/19/09	16:26	AP5009	WG
				7	09FR78WA-05	5/19/09	12:01	TB12	WQ
	13	5/21/09	1092156	1	09FR78WA-07	5/20/09	12:12	AP4537	WG
				2	09FR78WA-08	5/20/09	14:13	AP4535	WG
				5	09FR78WA-06	5/20/09	12:00	TB13	WQ
	14			3	09FR78WA-10	5/20/09	15:47	AP5008	WG
				4	09FR78WA-11	5/20/09	16:15	EB78614	WQ
				6	09FR78WA-09	5/20/09	12:01	TB14	WQ
	15	5/22/09	1092173	1	09FR78WA-13	5/21/09	9:51	AP4529	WG
				2	09FR78WA-14	5/21/09	9:55	AP9529	WG
				5	09FR78WA-12	5/21/09	9:00	TB15	WQ
	16			3	09FR78WA-16	5/21/09	14:25	AP5001	WG
				4	09FR78WA-17	5/21/09	14:55	EB78616	WQ
				6	09FR78WA-15	5/21/09	9:01	TB16	WQ
	17	5/22/09			09FR78WA-19	5/22/09	14:20	AP5007	WG
					09FR78WA-20	5/22/09	15:00	EB78617	WQ
					09FR78WA-18	5/22/09	12:00	TB17	WQ

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	31	5/27/09	1092236		09FROBWA-02	5/26/09	15:28	AP3749	WG
					09FROBWA-03	5/26/09	15:55	EBOUB31	WQ
					09FROBWA-01	5/26/09	12:00	TB31	WQ
	32	5/28/09	1092246		09FROBWA-05	5/27/09	10:40	AP4019	WG
					09FROBWA-06	5/27/09	12:53	AP3982	WG
					09FROBWA-07	5/27/09	15:16	AP4354	WG
					09FROBWA-08	5/27/09	17:00	EBOUB32	WQ
					09FROBWA-04	5/27/09	10:00	TB32	WQ
	33	5/29/09	1092275		09FROBWA-10	5/28/09	10:38	AP4350	WG
					09FROBWA-11	5/28/09	12:00	AP4345	WG
					09FROBWA-12	5/28/09	14:00	AP5246	WG
					09FROBWA-13	5/28/09	15:22	AP3748	WG
					09FROBWA-14	5/28/09	15:46	EBOUB33	WQ
					09FROBWA-09	5/28/09	10:00	TB33	WQ
	34	5/29/09	1092302		09FROBWA-16	5/29/09	11:55	AP4518	WG
					09FROBWA-17	5/29/09	12:56	AP4344	WG
					09FROBWA-18	5/29/09	15:01	AP3981	WG
					09FROBWA-19	5/29/09	15:20	EBOUB34	WQ
					09FROBWA-15	5/29/09	11:00	TB34	WQ
	35	6/2/09	1092330		09FROBWA-21	6/1/09	12:50	AP3984	WG
					09FROBWA-22	6/1/09	12:52	AP9984	WG
					09FROBWA-23	6/1/09	14:03	AP3745	WG
					09FROBWA-24	6/1/09	15:48	AP4011	WG
					09FROBWA-25	6/1/09	16:10	EBOUB35	WQ
					09FROBWA-20	6/1/09	12:00	TB35	WQ
	36	6/3/09			09FROBWA-27	6/2/09	9:55	AP3744	WG
					09FROBWA-28	6/2/09	11:45	AP3989	WG
					09FROBWA-29	6/2/09	13:55	AP3747	WG
					09FROBWA-30	6/2/09	16:10	AP4519	WG
					09FROBWA-31	6/2/09	16:15	AP9519	WG
					09FROBWA-32	6/2/09	16:30	EBOUB36	WQ
					09FROBWA-26	6/2/09	9:00	TB36	WQ
	* 07, 08, and 09, which are listed on the COC, should be 09, 10, and 11, respectively.								

1092246

SGS

SHORT HOLDING

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of (hold time)?	
✓			If yes, have you done *e-mail ALERT notification*?	
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?	
		✓	If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
		✓	Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / (3) / 4)	
			Notes: COELT	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): (Standard) -or- Rush

Received Date: 5-28-09

Received Time: 0802

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
1	1.3 °C	#7
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):

(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir

Other: _____

Additional Sample Remarks: *(√if applicable)*

_____ Extra Sample Volume?

_____ Limited Sample Volume?

_____ Multi-Incremental Samples?

_____ Lab-filtered for dissolved_____

✓ Ref Lab required for METHANE

_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ **(print):** JAMES NOGHAY

Login proof: Self-check completed ✓ **Peer-reviewer's Initials** JJR

SGS

1092246

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

						Container Volume							Container Type							Preservative									
#	Container ID	Matrix	Test	QC	TB	1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1-4	1-C	1	VOC 8260								12		✓					✓			✓								
	D-F		METHANE								12		✓					✓			✓								
	G		NO_2NO_3 Cl SO4							4						✓				✓									
	H		Diss Fe Mn					4							✓							✓							
5	1-C	1	VOC		✓						3		✓					✓			✓								

1092275

SHORT HOLDING

SHANNON & WILSON, INC. CHAIN-OF-CUSTODY RECORD

Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
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(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Page 1 of 1

Laboratory SGS

Attn: Heidi Geri

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B)	3 x VOAs HCl pres. Methane, ethane (RSK 175)	3 x VOAs HCl pres. Dissolved Fe+Mn (SW 6020)	HDPE NO3/NO2 H2SO4 pres. (SW 9056 + EPA 300.0)	Natural attn parameters		Total Number of Containers	Remarks/Matrix
09FROBWA-09	⑥ A.C	1000	5/28/09		✓	✓						3	Trip blank/water
09FROBWA-10	① A-H	1038	"		✓	✓	✓	✓	✓			8	Water, Metals field-filtered
09FROBWA-11	②	1200	"		✓	✓	✓	✓	✓			8	"
09FROBWA-12	③	1400	"		✓	✓	✓	✓	✓			8	"
09FROBWA-13	④	1522	"		✓	✓	✓	✓	✓			8	"
09FROBWA-14	⑤	1546	"		✓	✓	✓	✓	✓			8	"

Project Information	Sample Receipt
Project Number: 321-17261	Total Number of Containers
Project Name: Ft. Rich; OUB	COC Seals/Intact? Y/N/NA
Contact: Hayder Turker	Received Good Cond./Cold
Ongoing Project? Yes ☑ No ☐	Delivery Method:
Sampler: Joe Thomas	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Standard
Special Instructions: USACE/Corps Task Order 001 Contract: W911KB-08-D-0005 NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 811	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 5/29/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon + Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 0811
Printed Name: Date:	Printed Name: Date:	Printed Name: James Doherty Date: 5-29-09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler # 33

#7 2.1

No. 28678

1092275

SGS

SAMPLE RECEIPT FORM

SGS WO#: L

SHORT HOLDING

Yes	No	NA		
✓			Are samples RUSH, priority or *w/in 72 hrs* of hold time?	TAT (circle one): (Standard) -or- Rush
✓			If yes, have you done *e-mail ALERT notification*?	Received Date: 5.29.09
✓			Are samples *within 24 hrs.* of **hold time** or **due date**?	Received Time: 0911
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
#33	2.1 °C	7
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

		✓	If this is for PWS, provide **PWSID:**
		✓	Payment received: $_____ by Check or Credit Card
	✓		Will courier charges apply?
✓			Data package required? (Level: 1 / 2 / (3) / 4)
			Notes: COELT
✓			Is this a DoD project? (USACE, Navy, AFCEE)

Delivery method (circle all that apply):
(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (✓*if applicable*)
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved _____
✓ Ref Lab required for METHANE
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____
Via: Phone / Fax / E-mail (*circle one*)
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ (print): JAMES MOGGETT

Login proof: Self-check completed ✓ Peer-reviewer's Initials JSR

SGS

1092275

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1-5	A-C	1	VOC								15		✓					✓			✓								
	DF		METHANE								15		✓					✓			✓								
	G		NO_3, NO_2, Cl, SO_4							5						✓				✓									
	H		DISS Fe, Mn					5							✓							✓							
6	A-C	1	VOC		✓						3		✓					✓			✓								
Bottle Totals							5		5	33																			

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: _____ Date: 5-29-09

1092302

SHANNON & WILSON, INC. CHAIN-OF-CUSTODY RECORD

Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Page 1 of 1

Laboratory SGS
Attn: Heidi Geri

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B) 3x VOAs HCl Pres.	Methane, ethane, ethene 3 x VOAs (RSK-175)	Dissolved Perm. Gases (SW 6020) HNO3	NO3/NO2, Sol'd Cl (SW 9056), EPA 300.0 Nalgene wide		Total Number of Containers	Remarks/Matrix
09FR03WA-15	5 A-C	1100	5/29/09		✓	✓					3	Trip blank/water
09FR03WA-16	1 A-H	1155	"		✓	✓	✓	✓	✓		8	Metals field filtered/water
09FR03WA-17	2 |	1256	"		✓	✓	✓	✓	✓		8	"
09FR03WA-18	3 |	1501	"		✓	✓	✓	✓	✓		8	"
09FR03WA-19	4 ↓	1520	"		✓	✓	✓	✓	✓		8	"

Project Information	Sample Receipt
Project Number: 32-1-17201	Total Number of Containers
Project Name: Ft Richardson, OB	COC Seals/Intact? Y/N/NA
Contact: Hayder Turker	Received Good Cond./Cold
Ongoing Project? Yes ☑ No ☐	Delivery Method
Sampler: Joe Thomas	(attach shipping bill, if any)

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order-0001
Contract W911KB-05-D-0005
NPDL 09-0005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: [signature] Time: 1545	Signature: [signature] Time: 16:10	Signature: Time:
Printed Name: Joe Thomas Date: 5/29/09	Printed Name: Hayder Turker Date: 5/29/09	Printed Name: Date:
Company: Shannon Wilson	Company: S&W	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: [signature] Time: 15:45	Signature: Time:	Signature: [signature] Time: 1610
Printed Name: Hayder Turker Date: 5/29/09	Printed Name: Date:	Printed Name: Joe Rud Date: 5/29/09
Company: S&W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #34

TB=32

No. 28679

1092302

SGS

SHORT HOLDING

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	
✓			If yes, have you done *e-mail ALERT notification*?	
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?	
		✓	If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
	✓		Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes:	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): Standard -or- Rush

Received Date: 5/29/09

Received Time: 1610

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
1	3.2 °C	#7
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):

(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir

Other: _____

Additional Sample Remarks: *(√if applicable)*

_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
_____ Ref Lab required for_____
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
____	____	Is received temperature ≤6°C?
____	____	Were containers ice-free? *Notify PM **immediately** of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
____	____	Was there an airbill? *(If "yes," see attached.)*
____	____	Was cooler sealed with custody seals & were they intact?
		# / where: _____
____	____	Was there a COC with cooler?
____	____	Was COC sealed in plastic bag & taped inside lid of cooler?
____	____	Was the COC filled out properly? Did labels correspond?
____	____	Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		Bubble Wrap Vermiculite Other (specify): _____
____	____	Were all samples sealed in separate plastic bags?
____	____	Were all VOCs free of headspace and/or MeOH preserved?
____	____	Were correct container / sample sizes submitted?
____	____	Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ **(print):** Joe Rud.

Login proof: Self-check completed JR **Peer-reviewer's Initials** MB

SGS

1092302

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1-4	A-C	1	VOC								12		✓					✓			✓								
	D-F	1	Methane								12		✓					✓			✓								
	G	1	NO2, NO3, Cl, F, SO4							4						✓				✓									
	H	V	Diss Fe, Mn					4							✓							✓							
5	A	1	VOC		✓						3		✓					✓			✓								
Bottle Totals								4		4	27																		

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: Joe Rad Date: 5/29/09

1092330

SHORT HOLDING

CHAIN-OF-CUSTODY RECORD

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

2043 Westport Center Drive
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(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Laboratory SGS
Attn: Heidi Geer

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260)	3-VOAs, HCl pres.	Methane, ethane, ethene (RSK-175) 3xVOAs, HCl pres.	Dissolved Fe+Mn (SW 6010) HNO3	NO2/NO3, SO4, Cl (SW 9056) BOA 360 no pres.			Total Number of Containers	Remarks/Matrix
09FROBWA-20	(8) A-C	1200	6/1/09		✓	✓							3	Trip Blank/Water
09FROBWA-21	(1) A-H	1250	"		✓	✓	✓	✓	✓				8	Metals field-filtered/Water
09FROBWA-22	(2) A-H	1252	"		✓	✓	✓	✓	✓				8	"
09FROBWA-23	(3)(4)(5) A-H	1403	"		✓	✓	✓	✓	✓				16	" ;MS/MSD set
09FROBWA-24	(6) A-H	1548	"		✓	✓	✓	✓	✓				8	"
09FROBWA-25	(7) A-H	1610	"		✓	✓	✓	✓	✓				8	"
									SHORT HOLDING					

Project Information		Sample Receipt	
Project Number:	32-i-17261	Total Number of Containers	
Project Name:	Ft. Rich, OUB	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Tucker	Received Good Cond./Cold	
Ongoing Project?	Yes ☑ No ☐	Delivery Method:	
Sampler:	Joe Thomas	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 0001
W911KB-08-D-0005
NPDL - 09-0005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 800	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 6/2/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon+Wilson	Company:	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: Time:	Signature: Time:	Signature: Time: 0800
Printed Name: Date:	Printed Name: Date:	Printed Name: James McCarthy Date: 6-2-09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #35

6 TB = 2.1

No. 28684

SGS

SHORT HOLDING SAMPLE RECEIPT FORM

SGS WO#: 1092330

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	**TAT (circle one):** (Standard) -or- Rush
✓			If yes, have you done *e-mail ALERT notification*?	**Received Date:** 6.2.09
✓			Are samples *within 24 hrs.* of **hold time** or **due date**?	**Received Time:** 0800
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
		✓	Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / (3) / 4)	
			Notes: COECT	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
35	2.1 °C	#6
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: *(√if applicable)*
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
✓ Ref Lab required for METHANE
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____
Via: Phone / Fax / E-mail (*circle one*)
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ **(print):** JAMES DOUGHTY

Login proof: Self-check completed ✓ **Peer-reviewer's Initials** _____

SGS

1092330

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1,2 6,7	A-C	1	VOC								12		✓					✓			✓								
	D-F		METHANE								12		✓					✓			✓								
	G		NO_2 NO_3 Cl SO_4							4						✓				✓									
	H		Diss Fe Mn					4							✓							✓							
3	A,B	1	VOC								2		✓					✓			✓								
	C,D		METHANE								2		✓					✓			✓								
	E		NO_2 NO_3 Cl SO_4							1						✓				✓									
	F		~~Diss Fe SO_4~~ EXTRA VOC							1						✓				✓									
	G		Diss Fe Mn					1							✓							✓							
	H		EXTRA VOC					1							✓							✓							
4	A,B		VOC								2		✓					✓			✓								
	C,D		METHANE								2		✓					✓			✓								
	E		NO_2 NO_3 Cl SO_4						5	1	1	3E																	
	F		~~Cl SO_4~~ EXTRA VOC						↓	↓	↓	3F																	
			~~pH 6-2-09~~ **Bottle Totals**					6		6	32																		

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: _____ Date: 6-2-09

1092330

SGS

SAMPLE RECEIPT FORM (page 2)

SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
4	G	1	Diss Fe Mn	MS					S	J	A	3G																	
	H		EXTRA VOC	MS					↓	↓	↓	3H																	
5	A,B		VOC	MSD							2		V					V			V								
	C,D		METHANE	MSD							2		V					V			V								
	E		NO_3, NO_2, Cl, SO_4	MSD					S	J	A	3E																	
	F		~~O&G~~ ~~Cl, SO_4~~ EXTRA VOC	MSD					↓	↓	↓	3F																	
	G		Diss Fe Mn	MSD								3G																	
	H		EXTRA VOC	MSD								3H																	
8	A-C	1	VOC		V						3		V					V			V								
											6/3/09																		
											9x40																		
			Bottle Totals								4																		
											7																		

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: _____ Date: 6-2-09

1092382

~~SHORT HOLDING~~

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Page 1 of 1

Laboratory SGS
Attn: Heidi Geri

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B) 3 x VOAs HCl-pres.	Methane, Ethane & Ethene (RSK-175) 3 x VOAs HCl-pres.	Dissolved Fe & Mn (SW 6020) HNO3-pres.	NO2/NO3, SO4 + Cl. (SW 9056 + EPA 300.0) Nitrate-N only?	MS/MSD	Total Number of Containers	Remarks/Matrix
09FROBWA-26	(9) A-C	900	6/2/09		✓	✓					3	Trip blank / Water
09FROBWA-27	(1)(2)(3) A-H	955	"		✓	✓	✓	✓	✓	MS/MSD	16	Metals, field-filtered; water
09FROBWA-28	(4) A-H	1145	"		✓	✓	✓	✓	✓		8	"
09FROBWA-29	(5)	1355	"		✓	✓	✓	✓	✓		8	"
09FROBWA-30	(6)	1610	"		✓	✓	✓	✓	✓		8	"
09FROBWA-31	(7)	1615	"		✓	✓	✓	✓	✓		8	"
09FROBWA-32	(8)	1630	"		✓	✓	✓	✓	✓		8	"

Project Information	Sample Receipt
Project Number: 32-1-17201	Total Number of Containers
Project Name: Ft Rich; OUB	COC Seals/Intact? Y/N/NA
Contact: Haydar Turker	Received Good Cond./Cold
Ongoing Project? Yes ☑ No ☐	Delivery Method:
Sampler: Joe Thomas	(attach shipping bill, if any)

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 0001
Contract: W911KB-08-D-0005
NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 818	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 6/3/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 0818
Printed Name: Date:	Printed Name: Date:	Printed Name: Date: 6.3.09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

Page 73 of 78

F-19-91/UR

Cooler # 36 70d TP = 3.4

No. 28574

1092382

SHANNON & WILSON, INC.

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	5/13/09	1092008	1	09FROAWA-02	5/12/09	13:30	AP3870	WG
				2	09FROAWA-03	5/12/09	16:00	AP3893	WG
				3	09FROAWA-04	5/12/09	16:30	EBOUE01	WQ
				4	09FROAWA-01	5/12/09	13:00	TB01	WQ
	02	5/14/09	1092030	1	09FROAWA-06	5/13/09	10:42	AP3774	WG
				2	09FROAWA-07	5/13/09	12:26	AP3871	WG
				3,4,5	09FROAWA-08	5/13/09	16:50	AP3534	WG
				6	09FROAWA-09	5/13/09	17:28	EBOUE02	WQ
				7	09FROAWA-05	5/13/09	10:00	TB02	WQ
	03	5/15/09	1092046	1	09FROAWA-11	5/14/09	13:40	AP3468	WG
				2	09FROAWA-12	5/14/09	17:49	AP4341	WG
				3	09FROAWA-13	5/14/09	18:00	EBOUE03	WQ
				4	09FROAWA-10	5/14/09	12:00	TB03	WQ
	04	5/15/09	1092063	1	09FROAWA-15	5/15/09	11:40	AP4342	WG
				2	09FROAWA-16	5/15/09	13:14	AP4413	WG
				3	09FROAWA-17	5/15/09	13:16	AP9413	WG
				4	09FROAWA-18	5/15/09	14:26	AP4411	WG
				5	09FROAWA-19	5/15/09	14:00	EBOUE04	WQ
				6	09FROAWA-14	5/15/09	11:00	TB04	WQ
09-007	21	5/19/09	1092100		09FR76WA-02	5/18/09	11:00	AP5004	WG
					09FR76WA-03	5/18/09	11:05	AP9004	WG
					09FR76WA-01	5/18/09	10:00	TB21	WQ
	22				09FR76WA-04	5/18/09	13:40	AP5038	WG
					09FR76WA-07	5/18/09	10:01	TB22	WQ
	23				09FR76WA-05	5/18/09	16:05	AP5000	WG
					09FR76WA-06	5/18/09	16:40	EB76223	WQ
					09FR76WA-08	5/18/09	10:02	TB23	WQ
	24	5/22/09			09FR76WA-10 (08)*	5/22/09	11:46	AP5002	WG
					09FR76WA-11 (09)*	5/22/09	12:15	EB76224	WQ
					09FR76WA-09 (07)*	5/22/09	11:00	TB24	WQ
09-008	11	5/20/09	1092127	1	09FR78WA-02	5/19/09	14:03	AP4536	WG
				5	09FR78WA-04	5/19/09	17:25	EB78611	WG
				6	09FR78WA-01	5/19/09	12:00	TB11	WQ
	12			2	09FR78WA-03	5/19/09	16:26	AP5009	WG
				7	09FR78WA-05	5/19/09	12:01	TB12	WQ
	13	5/21/09	1092156	1	09FR78WA-07	5/20/09	12:12	AP4537	WG
				2	09FR78WA-08	5/20/09	14:13	AP4535	WG
				5	09FR78WA-06	5/20/09	12:00	TB13	WQ
	14			3	09FR78WA-10	5/20/09	15:47	AP5008	WG
				4	09FR78WA-11	5/20/09	16:15	EB78614	WQ
				6	09FR78WA-09	5/20/09	12:01	TB14	WQ
	15	5/22/09	1092173	1	09FR78WA-13	5/21/09	9:51	AP4529	WG
				2	09FR78WA-14	5/21/09	9:55	AP9529	WG
				5	09FR78WA-12	5/21/09	9:00	TB15	WQ
	16			3	09FR78WA-16	5/21/09	14:25	AP5001	WG
				4	09FR78WA-17	5/21/09	14:55	EB78616	WQ
				6	09FR78WA-15	5/21/09	9:01	TB16	WQ
	17	5/22/09			09FR78WA-19	5/22/09	14:20	AP5007	WG
					09FR78WA-20	5/22/09	15:00	EB78617	WQ
					09FR78WA-18	5/22/09	12:00	TB17	WQ

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	31	5/27/09	1092236		09FROBWA-02	5/26/09	15:28	AP3749	WG
					09FROBWA-03	5/26/09	15:55	EBOUB31	WQ
					09FROBWA-01	5/26/09	12:00	TB31	WQ
	32	5/28/09	1092246		09FROBWA-05	5/27/09	10:40	AP4019	WG
					09FROBWA-06	5/27/09	12:53	AP3982	WG
					09FROBWA-07	5/27/09	15:16	AP4354	WG
					09FROBWA-08	5/27/09	17:00	EBOUB32	WQ
					09FROBWA-04	5/27/09	10:00	TB32	WQ
	33	5/29/09	1092275		09FROBWA-10	5/28/09	10:38	AP4350	WG
					09FROBWA-11	5/28/09	12:00	AP4345	WG
					09FROBWA-12	5/28/09	14:00	AP5246	WG
					09FROBWA-13	5/28/09	15:22	AP3748	WG
					09FROBWA-14	5/28/09	15:46	EBOUB33	WQ
					09FROBWA-09	5/28/09	10:00	TB33	WQ
	34	5/29/09	1092302		09FROBWA-16	5/29/09	11:55	AP4518	WG
					09FROBWA-17	5/29/09	12:56	AP4344	WG
					09FROBWA-18	5/29/09	15:01	AP3981	WG
					09FROBWA-19	5/29/09	15:20	EBOUB34	WQ
					09FROBWA-15	5/29/09	11:00	TB34	WQ
	35	6/2/09	1092330		09FROBWA-21	6/1/09	12:50	AP3984	WG
					09FROBWA-22	6/1/09	12:52	AP9984	WG
					09FROBWA-23	6/1/09	14:03	AP3745	WG
					09FROBWA-24	6/1/09	15:48	AP4011	WG
					09FROBWA-25	6/1/09	16:10	EBOUB35	WQ
					09FROBWA-20	6/1/09	12:00	TB35	WQ
	36	6/3/09			09FROBWA-27	6/2/09	9:55	AP3744	WG
					09FROBWA-28	6/2/09	11:45	AP3989	WG
					09FROBWA-29	6/2/09	13:55	AP3747	WG
					09FROBWA-30	6/2/09	16:10	AP4519	WG
					09FROBWA-31	6/2/09	16:15	AP9519	WG
					09FROBWA-32	6/2/09	16:30	EBOUB36	WQ
					09FROBWA-26	6/2/09	9:00	TB36	WQ

* 07, 08, and 09, which are listed on the COC, should be 09, 10, and 11, respectively.

SGS

SHORT HOLDING SAMPLE RECEIPT FORM

SGS WO#: 1092382

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	
✓			If yes, have you done *e-mail ALERT notification*?	
✓			Are samples *within 24 hrs.* of hold time or **due date**?	
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
		✓	Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes: COECT	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): Standard -or- Rush

Received Date: 6.3.09

Received Time: 0818

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
36	3.4 °C	70d
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):

(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir

Other: _____

Additional Sample Remarks: (√ *if applicable*)

_____ Extra Sample Volume?

_____ Limited Sample Volume?

_____ Multi-Incremental Samples?

_____ Lab-filtered for dissolved_____

_____ Ref Lab required for_____

_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact? # / where:
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with: *(circle one)*: (Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail (*circle one*)

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes:

SHORT HOLDING

Completed by (sign): _____ **(print):** JAMES DOOHITY

Login proof: Self-check completed ✓ **Peer-reviewer's Initials** _____

SGS

1092382

SAMPLE RECEIPT FORM (page 2)

SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1	A,B	1	VOC								2		✓					✓			✓							
	C,D		METHANE								2		✓					✓			✓							
	E		NO_2 NO_3 Cl SO4							1						✓				✓									
	F		Diss Metals					1							✓							✓							
	G		EXTRA VOC					1							✓							✓							
	H		EXTRA VOC							1						✓				✓									
2	A,B		VOC	MS							2		✓					✓			✓							
	C,D		METHANE	MS							2		✓					✓			✓							
	E		NO_2 NO_3 Cl SO4	MS					5	J	A	1E																	
	F		Diss Metals	MS					↓	↓	↓	1F																	
	G		EXTRA VOC	MS								1G																	
	H		EXTRA VOC	MS								1H																	
3	A,B		VOC	MSD							2		✓					✓			✓							
	C,D		METHANE	MSD							2		✓					✓			✓							
	E		NO_2 NO_3 Cl SO4	MSD					5	J	A	1E																	
			Bottle Totals					2		2	12																		

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: _____ Date: 6-3-09

1092382

SGS

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
3	F	1	Diss Metals						5	1	1	1F																	
	G		EXTRA VOC						↓	↓	↓	1G																	
	H		EXTRA VOC						↓	↓	↓	1H																	
4	A-C	1	VOC								15		V					V			V								
	D-F		METHANE								15		L					L			V								
	G		NO_2 NO_3 Cl SO_4							5						V				V									
	H		Diss Metals					5							V							V							
9	A-C	1	VOC		V						3		V					L			V								
			Bottle Totals					5		5	33																		

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106.

Completed by: _____ Date: 6.3.09

1092416

SHORT HOLDING

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

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Fairbanks, AK 99709
(907) 479-0600

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5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

CHAIN-OF-CUSTODY RECORD

Laboratory SGS
Attn: Heidi Geri

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B) 3x VOAs, HCl preserved	Methane, ethane, ethene (RSK-175) 3x VOAs, HCl preserved	Dissolved Ferrous Iron (SM 3500) w/ HNO3 preserved	NO2/NO3 (EPA 300.0) 250 mL Poly, unpreserved	SO4 (EPA 300.0) 250 mL Poly, unpreserved	Alkalinity (SM 2320B) 125 mL Poly, unpreserved		Total Number of Containers	Remarks/Matrix
09FROBWA-33	11 A-C	1200	6/3/09		✓	✓							3	Trip blank / Water
09FROBWA-34	1 A-H	1205	"		✓	✓	✓	✓	✓				8	Metals field-filtered/water
09FROBWA-35	2	1207	"		✓	✓	✓	✓	✓				8	"
09FROBWA-36	3	1210	"		✓	✓	✓	✓	✓				8	"
09FROBWA-37	4	1439	"		✓	✓	✓	✓	✓				8	"
09FROBWA-38	5	1654	"		✓	✓	✓	✓	✓				8	"
09FROBWA-39	6	1740	"		✓	✓	✓	✓	✓				8	"
09FROBWA-40	7	1852	"		✓	✓	✓	✓	✓				8	"
09FROBWA-41	8	1934	"		✓	✓	✓	✓	✓				8	"
09FROBWA-42	9	1955	"		✓	✓	✓	✓	✓				8	"

Project Information	Sample Receipt
Project Number: 32-1-17261	Total Number of Containers
Project Name: Ft. Richardson	COC Seals/Intact? Y/N/NA
Contact: Hayder Tirkey	Received Good Cond./Cold
Ongoing Project? Yes ☑ No ☐	Delivery Method:
Sampler: Joe Thomas	(attach shipping bill, if any)

Instructions
Requested Turnaround Time: Standard
Special Instructions: USACE/Corps Task Order 0001 Contract: W911KB-08-D0005 NPDL 09-0005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1040	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 6/4/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon & Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 1040
Printed Name: Date:	Printed Name: Date:	Printed Name: Joe Rust Date: 6/4/09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler # 37

700 TB= 2.4

No. 28686

1092416

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Laboratory SGS

Attn: Heidi Geri

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
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Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (EPA 8260B) 34 VOAs, He, DIG, Methane, Ethane, Ethene (RSK-175) 3 VOAs	Dissolved Fe, Mn (SW 6020) HNO3	NO3/NO2, SO4, Cl (SW 9056+Bm 300.0)	Total Number of Containers	Remarks/Matrix
09FROBWA-43	(10) 1-4	1920	6/3/09		✓	✓	✓	✓	✓	8	Metals field filtered/Water

Project Information		Sample Receipt	
Project Number:	32-1-17261	Total Number of Containers	
Project Name:	Ft. Rich, OU3	COC Seals/Intact? Y/N/NA	
Contact:	Hayder Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☑ No ☐	Delivery Method:	
Sampler:	Joe Thomas	(attach shipping bill, if any)	

Instructions
Requested Turnaround Time: Standard
Special Instructions: USACE/ Corps Task Order 0001 Contract W911KB-08-D-0005 NPDL 09-0005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1040	Signature: Time:	Signature: Time:
Printed Name: Joe Thomas Date: 6/4/09	Printed Name: Date:	Printed Name: Date:
Company: Shannon&Wilson	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time:	Signature: Time:	Signature: Time: 1040
Printed Name: Date:	Printed Name: Date:	Printed Name: Joe Reed Date: 6/4/09
Company:	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler # 37

No. 28682

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	5/13/09	1092008	1	09FROAWA-02	5/12/09	13:30	AP3870	WG
				2	09FROAWA-03	5/12/09	16:00	AP3893	WG
				3	09FROAWA-04	5/12/09	16:30	EBOUE01	WQ
				4	09FROAWA-01	5/12/09	13:00	TB01	WQ
	02	5/14/09	1092030	1	09FROAWA-06	5/13/09	10:42	AP3774	WG
				2	09FROAWA-07	5/13/09	12:26	AP3871	WG
				3,4,5	09FROAWA-08	5/13/09	16:50	AP3534	WG
				6	09FROAWA-09	5/13/09	17:28	EBOUE02	WQ
				7	09FROAWA-05	5/13/09	10:00	TB02	WQ
	03	5/15/09	1092046	1	09FROAWA-11	5/14/09	13:40	AP3468	WG
				2	09FROAWA-12	5/14/09	17:49	AP4341	WG
				3	09FROAWA-13	5/14/09	18:00	EBOUE03	WQ
				4	09FROAWA-10	5/14/09	12:00	TB03	WQ
	04	5/15/09	1092063	1	09FROAWA-15	5/15/09	11:40	AP4342	WG
				2	09FROAWA-16	5/15/09	13:14	AP4413	WG
				3	09FROAWA-17	5/15/09	13:16	AP9413	WG
				4	09FROAWA-18	5/15/09	14:26	AP4411	WG
				5	09FROAWA-19	5/15/09	14:00	EBOUE04	WQ
				6	09FROAWA-14	5/15/09	11:00	TB04	WQ
09-007	21	5/19/09	1092100		09FR76WA-02	5/18/09	11:00	AP5004	WG
					09FR76WA-03	5/18/09	11:05	AP9004	WG
					09FR76WA-01	5/18/09	10:00	TB21	WQ
	22				09FR76WA-04	5/18/09	13:40	AP5038	WG
					09FR76WA-07	5/18/09	10:01	TB22	WQ
	23				09FR76WA-05	5/18/09	16:05	AP5000	WG
					09FR76WA-06	5/18/09	16:40	EB76223	WQ
					09FR76WA-08	5/18/09	10:02	TB23	WQ
	24	5/22/09			09FR76WA-10 (08)*	5/22/09	11:46	AP5002	WG
					09FR76WA-11 (09)*	5/22/09	12:15	EB76224	WQ
					09FR76WA-09 (07)*	5/22/09	11:00	TB24	WQ
09-008	11	5/20/09	1092127	1	09FR78WA-02	5/19/09	14:03	AP4536	WG
				5	09FR78WA-04	5/19/09	17:25	EB78611	WG
				6	09FR78WA-01	5/19/09	12:00	TB11	WQ
	12			2	09FR78WA-03	5/19/09	16:26	AP5009	WG
				7	09FR78WA-05	5/19/09	12:01	TB12	WQ
	13	5/21/09	1092156	1	09FR78WA-07	5/20/09	12:12	AP4537	WG
				2	09FR78WA-08	5/20/09	14:13	AP4535	WG
				5	09FR78WA-06	5/20/09	12:00	TB13	WQ
	14			3	09FR78WA-10	5/20/09	15:47	AP5008	WG
				4	09FR78WA-11	5/20/09	16:15	EB78614	WQ
				6	09FR78WA-09	5/20/09	12:01	TB14	WQ
	15	5/22/09	1092173	1	09FR78WA-13	5/21/09	9:51	AP4529	WG
				2	09FR78WA-14	5/21/09	9:55	AP9529	WG
				5	09FR78WA-12	5/21/09	9:00	TB15	WQ
	16			3	09FR78WA-16	5/21/09	14:25	AP5001	WG
				4	09FR78WA-17	5/21/09	14:55	EB78616	WQ
				6	09FR78WA-15	5/21/09	9:01	TB16	WQ
	17	5/22/09			09FR78WA-19	5/22/09	14:20	AP5007	WG
					09FR78WA-20	5/22/09	15:00	EB78617	WQ
					09FR78WA-18	5/22/09	12:00	TB17	WQ

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	31	5/27/09	1092236		09FROBWA-02	5/26/09	15:28	AP3749	WG
					09FROBWA-03	5/26/09	15:55	EBOUB31	WQ
					09FROBWA-01	5/26/09	12:00	TB31	WQ
	32	5/28/09	1092246		09FROBWA-05	5/27/09	10:40	AP4019	WG
					09FROBWA-06	5/27/09	12:53	AP3982	WG
					09FROBWA-07	5/27/09	15:16	AP4354	WG
					09FROBWA-08	5/27/09	17:00	EBOUB32	WQ
					09FROBWA-04	5/27/09	10:00	TB32	WQ
	33	5/29/09	1092275		09FROBWA-10	5/28/09	10:38	AP4350	WG
					09FROBWA-11	5/28/09	12:00	AP4345	WG
					09FROBWA-12	5/28/09	14:00	AP5246	WG
					09FROBWA-13	5/28/09	15:22	AP3748	WG
					09FROBWA-14	5/28/09	15:46	EBOUB33	WQ
					09FROBWA-09	5/28/09	10:00	TB33	WQ
	34	5/29/09	1092302		09FROBWA-16	5/29/09	11:55	AP4518	WG
					09FROBWA-17	5/29/09	12:56	AP4344	WG
					09FROBWA-18	5/29/09	15:01	AP3981	WG
					09FROBWA-19	5/29/09	15:20	EBOUB34	WQ
					09FROBWA-15	5/29/09	11:00	TB34	WQ
	35	6/2/09	1092330		09FROBWA-21	6/1/09	12:50	AP3984	WG
					09FROBWA-22	6/1/09	12:52	AP9984	WG
					09FROBWA-23	6/1/09	14:03	AP3745	WG
					09FROBWA-24	6/1/09	15:48	AP4011	WG
					09FROBWA-25	6/1/09	16:10	EBOUB35	WQ
					09FROBWA-20	6/1/09	12:00	TB35	WQ
	36	6/3/09	1092382		09FROBWA-27	6/2/09	9:55	AP3744	WG
					09FROBWA-28	6/2/09	11:45	AP3989	WG
					09FROBWA-29	6/2/09	13:55	AP3747	WG
					09FROBWA-30	6/2/09	16:10	AP4519	WG
					09FROBWA-31	6/2/09	16:15	AP9519	WG
					09FROBWA-32	6/2/09	16:30	EBOUB36	WQ
					09FROBWA-26	6/2/09	9:00	TB36	WQ
	37	6/4/09	1092416		09FROBWA-34	6/3/09	12:05	AP4353	WG
					09FROBWA-35	6/3/09	12:07	AP9353	WG
					09FROBWA-36	6/3/09	12:10	AP3985	WG
					09FROBWA-37	6/3/09	14:39	AP4550	WG
					09FROBWA-38	6/3/09	16:54	AP4017	WG
					09FROBWA-39	6/3/09	17:40	AP4525	WG
					09FROBWA-40	6/3/09	18:52	AP4551	WG
					09FROBWA-41	6/3/09	19:34	AP3983	WG
					09FROBWA-42	6/3/09	19:55	AP4352	WG
					09FROBWA-43	6/3/09	19:20	EBOUB37	WQ
					09FROBWA-33	6/3/09	12:00	TB37	WQ

* 07, 08, and 09, which are listed on the COC, should be 09, 10, and 11, respectively.

SGS

1092416

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	**TAT (circle one):** (Standard) -or- Rush
✓			If yes, have you done *e-mail ALERT notification*?	**Received Date:** 7-6-4-09
✓			Are samples *within 24 hrs.* of hold time or due date?	**Received Time:** 1040
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
		✓	Payment received: $ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / (3) / 4)	
			Notes: COC-7	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

Cooler ID	Temperature	Measured w/ (Therm/IR ID#)
1	2.4 °C	70d
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
(Client) / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir
Other:

Additional Sample Remarks: *(√if applicable)*
- Extra Sample Volume?
- Limited Sample Volume?
- Multi-Incremental Samples?
- Lab-filtered for dissolved
- ✓ Ref Lab required for METHANE
- Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where:
✓		Was there a COC with cooler?
✓		Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify):
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM):

Individual contacted:

Via: Phone / Fax / E-mail *(circle one)*

Date/Time:

Reason for contact:

Change Order Required? Yes / No

Notes:

SHORT HOLDING

Completed by (sign): [signature] **(print):** JAMES MOCCIA

Login proof: Self-check completed ✓ **Peer-reviewer's Initials** MO

1092416

SGS

SAMPLE RECEIPT FORM (page 2)

SGS WO#:

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1 L	500 mL	250 mL or 8oz	125 mL or 4oz	60 mL	40 mL	Other (specify)	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other (specify)	Preservative: None	HCl	HNO_3	H_2SO_4	MeOH	$Na_2S_2O_3$	NaOH	NaOH+ZnAc	Other (specify)	* Notes
1-10	A-C	1	VOC								30		✓					✓			✓								
	D-F		METHANE								30		✓					✓			✓								
	G		NO_2 NO_3, Cl, SO_4							10						✓				✓									
	H		Diss Fe Mn					10							✓							✓							
11	A-C	1	VOC		✓						3		✓					✓			✓								

1095391

Kottsick, Jason L (Anchorage)

From: Kottsick, Jason L (Anchorage)
Sent: Tuesday, October 06, 2009 11:16 AM
To: 'Haydar Turker'
Subject: RE: 1095391_Ft. Rich OUB

Haydar:

Per our conversation, for consistency purposes of this (and past Ft. Rich) project, we will run Chloride by 9056.

Thank you,

Jason Kottsick
Environmental Services
Project Manager

SGS - North America Inc.
200 West Potter Drive
US - 99518 - Anchorage, AK
Phone: (907) 562-2343
Fax: (907) 561-5301
E-mail: jason.kottsick@sgs.com

From: Haydar Turker [mailto:HT@shanwil.com]
Sent: Monday, October 05, 2009 2:21 PM
To: Kottsick, Jason L (Anchorage)
Subject: RE: 1095391_Ft. Rich OUB

Thanks for the suggestion Jason. The project work plan specifies that chloride is tested by 300.0, and the same method (300.0) was used during the previous sampling events. For consistency and in accordance with the project plans, please let's use Method 300.0.

Haydar

From: Kottsick, Jason L (Anchorage) [mailto:Jason.Kottsick@sgs.com]
Sent: Monday, October 05, 2009 1:53 PM
To: Haydar Turker
Cc: Shayla Swedlund
Subject: 1095391_Ft. Rich OUB

On the attached COC Chloride was requested by 300.0. Since this is a DOD project and since we will already be running other anions by 9056, it is recommended that Chloride be run by 9056. How would you like to proceed?

Jason Kottsick
Environmental Services
Project Manager

SGS - North America Inc.
200 West Potter Drive
US - 99518 - Anchorage, AK
Phone: (907) 562-2343
Fax: (907) 561-5301
E-mail: jason.kottsick@sgs.com

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SHORT HOLDING

1095391

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY REC...

Page 1 of 1

Laboratory SGS

Attn: Jason Kotsick / Karen Waak

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOC (HCL) SW8260B	Methane, Ethane, Ethene (HCL) RSK175	Dissolved Fe, Mn (HNO3) SW6020	Chloride (WetChem) EPA 300.0	Sulfate, Nitrate, Nitrite (wet chem) SW9056		Total Number of Containers	Remarks/Matrix
09FROBWA01	6 A-C	0800	10/2/09		X	X						3	Water
09FROBWA02	1 A-H	1050			X	X	X	X	X	X		8	; Metals-field filtered
09FROBWA03	2	1303			X	X	X	X	X	X		8	;
09FROBWA04	3	1515			X	X	X	X	X	X		8	;
09FROBWA05	4	1600			X	X	X	X	X	X		8	;
09FROBWA06	5	1635			X	X	X	X	X	X		8	;

Project Information		Sample Receipt	
Project Number	32-1-17261-003	Total Number of Containers	
Project Name	Ft Rich-OU8	COC Seals/Intact? Y/N/NA	
Contact	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☑ No ☐	Delivery Method:	
Sampler:	Shayla Swedlund	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001
Contract W911KB-08-D-0005
NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 2000	Signature: Time: 9:40	Signature: Time:
Printed Name: Shayla Swedlund Date: 10/2/09	Printed Name: HAYDAR TURKER Date: 10/3/09	Printed Name: Date:
Company: Shannon & Wilson	Company: S&W	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: Time: 20:00	Signature: Time:	Signature: Time: 0940
Printed Name: HAYDAR TURKER Date: 10/2/09	Printed Name: Date:	Printed Name: Joe Rud Date: 10/3/09
Company: S&W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #01

TOD TB=3.2 <5 2.1

No. 29311

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	9/22/09	1095135	4	09FROAWA01	9/21/09	9:00	TB01	WQ
				1	09FROAWA02	9/21/09	15:48	AP3774	WG
				2	09FROAWA03	9/21/09	17:38	AP3870	WG
				3	09FROAWA04	9/21/09	18:30	EBOUE01	WQ
	02	9/24/09	1095181	7	09FROAWA05	9/23/09	8:00	TB02	WQ
				1	09FROAWA06	9/23/09	10:57	AP3871	WG
				2	09FROAWA07	9/23/09	13:24	AP3893	WG
				3	09FROAWA08	9/23/09	16:29	AP3534	WG
				4	09FROAWA09	9/23/09	16:34	AP9534	WG
				5	09FROAWA10	9/23/09	17:34	AP3468	WG
				6	09FROAWA11	9/23/09	18:15	EBOUE02	WQ
	03	9/25/09	1095214	8	09FROAWA12	9/24/09	9:00	TB03	WQ
				1,2,3	09FROAWA13	9/24/09	9:35	AP4341	WG
				4	09FROAWA14	9/24/09	10:01	AP4411	WG
				5	09FROAWA15	9/24/09	11:00	AP4342	WG
				6	09FROAWA16	9/24/09	12:55	AP4413	WG
				7	09FROAWA17	9/24/09	15:49	EBOUE03	WQ
09-007	01	9/28/09	1095252	9	09FR76WA01	9/25/09	8:00	TB04	WQ
				1	09FR76WA04	9/25/09	11:07	AP5002	WG
				2	09FR76WA05	9/25/09	11:09	AP9002	WG
				3	09FR76WA06	9/25/09	13:10	AP5004	WG
	02			10	09FR76WA02	9/25/09	8:05	TB05	WQ
				4	09FR76WA07	9/25/09	14:54	AP5038	WG
				5	09FR76WA09	9/25/09	17:20	EB76201	WQ
	03			11	09FR76WA03	9/25/09	8:10	TB06	WQ
				6,7,8	09FR76WA08	9/25/09	16:35	AP5000	WG
09-008	01	9/29/09	1095273	6	09FR78WA01	9/28/09	9:00	TB07	WQ
				1	09FR78WA02	9/28/09	13:54	AP4536	WG
				2	09FR78WA03	9/28/09	15:32	AP5008	WG
				3	09FR78WA04	9/28/09	15:40	AP9008	WG
	02			7	09FR78WA05	9/28/09	9:05	TB08	WQ
				4	09FR78WA06	9/28/09	16:54	AP4535	WG
				5	09FR78WA07	9/28/09	17:46	EB78601	WQ
	03	9/30/09	1095307	4	09FR78WA08	9/29/09	8:00	TB09	WQ
				1,2,3	09FR78WA09	9/29/09	10:30	AP5001	WG
	04	10/2/09			09FR78WA10	9/30/09	11:42	AP4537	WG
					09FR78WA11	9/30/09	14:00	AP4529	WG
					09FR78WA12	9/30/09	17:35	EB78602	WQ
					09FR78WA13	9/30/09	8:00	TB10	WQ
					09FR78WA14	10/1/09	10:45	AP5007	WG
09-005	01	10/3/09			09FROBWA01	10/2/09	8:00	TB11	WQ
					09FROBWA02	10/2/09	10:50	AP3749	WG
					09FROBWA03	10/2/09	13:03	AP4350	WG
					09FROBWA04	10/2/09	15:15	AP4344	WG
					09FROBWA05	10/2/09	16:00	EBOUB01	WQ
					09FROBWA06	10/2/09	16:35	AP4551	WG

1095391

SHORT HOLDING

SGS

SAMPLE RECEIPT FORM

SGS WO#: 1095391

Yes	No	NA	
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of **hold time**?
✓			If yes, have you done *e-mail ALERT notification*?
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?
		✓	If yes, have you also *spoken with* supervisor?
		✓	Archiving bottles: Are lids marked w/ red "X"?
✓			Were samples collected with proper preservative?
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**
		✓	If this is for PWS, provide **PWSID:**
	✓		Payment received: $_____ by Check or Credit Card
	✓		Will courier charges apply?
✓			Data package required? (Level: 1 / 2 / 3 / 4)
			Notes:
✓			Is this a DoD project? (USACE, Navy, AFCEE)

TAT (circle one): Standard -or- Rush
Received Date: 10/3/09
Received Time: 0940

Cooler ID	Temperature	Measured w/ (Therm #)
1	TB= 3.2 C=2.1 °C	#70D
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
(Client) / Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
_____ Ref Lab required for_____
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analytes affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact? #'s where:
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		Bubble Wrap / Vermiculite / Other (specify):
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____
Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted.

Was client notified of problems? Yes / No
By (SGS PM): _____
Individual contacted: _____
Via: Phone / Fax / E-mail *(circle one)*
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** Joe Rud.

Login proof: **Self-check completed** JJR **Peer-reviewer's Initials** Mel

1095391

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-5	A-C	1	VOC								15		✓					✓			✓							
	D-F	↓	methane								15		✓					✓			✓							
	G		no2 no3 sulfate, Cl							5						✓			✓									
	H		Diss Fe Mn					5							✓							✓						
6	A-C	1	VOC		✓						3		✓					✓			✓							
Bottle Totals								5		5	33																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: Joe Rudi Date: 10/3/09

F042r02 Revised 9/8/2009

1095418

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

400 N. 34th Street, Suite 100
Seattle, WA 98103
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(907) 479-0600

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(503) 223-6147

2043 Westport Center Drive
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(314) 699-9660

5430 Fairbanks Street, Suite 3
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(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory SGS
Attn: Jason Rotterdam

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOC (HCl) SW 8260B	Methane Ethane Ethene (HCl) RSK 175	Dissolved Fe, Mn (HNO3) SW6020	Chloride (no pres) EPA 300.0	Sulfate, Nitrate (no pres) SW 9056	Total Number of Containers	Remarks/Matrix
09FROBWA07	(1) (5) A-C	0800	10/5/09		X	X					3	water
09FROBWA08	(2) (1) A-H	1120	↓		X	X	X	X	X	X	8	water; metals - field filtered
09FROBWA09	(3) (2)	13:15			X	X	X	X	X	X	8	↓
09FROBWA10	(4) (3)	15:30			X	X	X	X	X	X	8	
09FROBWA11	(5) (4) ↓	15:57	↓		X	X	X	X	X	X	8	

Project Information		Sample Receipt	
Project Number:	32-1-17261-003	Total Number of Containers	
Project Name:	Ft. Rich-OUB	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes [X] No [ ]	Delivery Method:	
Sampler:	Andrew Lee	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001
Contract W911KB-08-D-0005
NPDL-09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Andrew Lee Time: 1830	Signature: H. Turker Time: 9:45	Signature: Time:
Printed Name: Andrew Lee Date: 10/5/09	Printed Name: HAYDAR TURKER Date: 10/6/09	Printed Name: Date:
Company: Shannon & Wilson	Company: S&W	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature: H. Turker Time: 18:30	Signature: Time:	Signature: Time: 0945
Printed Name: HAYDAR TURKER Date: 10/5/09	Printed Name: Date:	Printed Name: Joe Rud Date: 10/6/09
Company: S&W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR Cooler #2

TOD TB = 4.2 <= 2.0

No. 25309

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	9/22/09	1095135	4	09FROAWA01	9/21/09	9:00	TB01	WQ
				1	09FROAWA02	9/21/09	15:48	AP3774	WG
				2	09FROAWA03	9/21/09	17:38	AP3870	WG
				3	09FROAWA04	9/21/09	18:30	EBOUE01	WQ
	02	9/24/09	1095181	7	09FROAWA05	9/23/09	8:00	TB02	WQ
				1	09FROAWA06	9/23/09	10:57	AP3871	WG
				2	09FROAWA07	9/23/09	13:24	AP3893	WG
				3	09FROAWA08	9/23/09	16:29	AP3534	WG
				4	09FROAWA09	9/23/09	16:34	AP9534	WG
				5	09FROAWA10	9/23/09	17:34	AP3468	WG
				6	09FROAWA11	9/23/09	18:15	EBOUE02	WQ
	03	9/25/09	1095214	8	09FROAWA12	9/24/09	9:00	TB03	WQ
				1,2,3	09FROAWA13	9/24/09	9:35	AP4341	WG
				4	09FROAWA14	9/24/09	10:01	AP4411	WG
				5	09FROAWA15	9/24/09	11:00	AP4342	WG
				6	09FROAWA16	9/24/09	12:55	AP4413	WG
				7	09FROAWA17	9/24/09	15:49	EBOUE03	WQ
09-007	01	9/28/09	1095252	9	09FR76WA01	9/25/09	8:00	TB04	WQ
				1	09FR76WA04	9/25/09	11:07	AP5002	WG
				2	09FR76WA05	9/25/09	11:09	AP9002	WG
				3	09FR76WA06	9/25/09	13:10	AP5004	WG
	02			10	09FR76WA02	9/25/09	8:05	TB05	WQ
				4	09FR76WA07	9/25/09	14:54	AP5038	WG
				5	09FR76WA09	9/25/09	17:20	EB76201	WQ
	03			11	09FR76WA03	9/25/09	8:10	TB06	WQ
				6,7,8	09FR76WA08	9/25/09	16:35	AP5000	WG
09-008	01	9/29/09	1095273	6	09FR78WA01	9/28/09	9:00	TB07	WQ
				1	09FR78WA02	9/28/09	13:54	AP4536	WG
				2	09FR78WA03	9/28/09	15:32	AP5008	WG
				3	09FR78WA04	9/28/09	15:40	AP9008	WG
	02			7	09FR78WA05	9/28/09	9:05	TB08	WQ
				4	09FR78WA06	9/28/09	16:54	AP4535	WG
				5	09FR78WA07	9/28/09	17:46	EB78601	WQ
	03	9/30/09	1095307	4	09FR78WA08	9/29/09	8:00	TB09	WQ
				1,2,3	09FR78WA09	9/29/09	10:30	AP5001	WG
	04	10/2/09	1095376	1	09FR78WA10	9/30/09	11:42	AP4537	WG
				2	09FR78WA11	9/30/09	14:00	AP4529	WG
				3	09FR78WA12	9/30/09	17:35	EB78602	WQ
				5	09FR78WA13	9/30/09	8:00	TB10	WQ
				4	09FR78WA14	10/1/09	10:45	AP5007	WG
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09			09FROBWA-07	10/5/09	8:00	TB12	WQ
					09FROBWA-08	10/5/09	11:20	AP4345	WG
					09FROBWA-09	10/5/09	13:15	AP5246	WG
					09FROBWA-10	10/5/09	15:30	AP3748	WG
					09FROBWA-11	10/5/09	15:57	EBOUB02	WQ

1095418

SGS

SAMPLE RECEIPT FORM

SGS WO#: 1095418

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of **hold time**?	
✓			If yes, have you done *e-mail ALERT notification*?	
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?	
		✓	If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
	✓		Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes:	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): Standard -or- Rush

Received Date: 10/6/09

Received Time: 0945

Cooler ID	Temperature	Measured w/ (Therm #)
1	4.2 °C	#7
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
(Client) Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved
✓ Ref Lab required for (D-4)D-F
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.* If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact? # / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*: (Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID 1 Cooler Temp °C 2.0 | Cooler ID _____ Cooler Temp °C _____ | Cooler ID _____ Cooler Temp °C _____

Cooler ID _____ Cooler Temp °C _____ | Cooler ID _____ Cooler Temp °C _____ | Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** Joe Rudi

Login proof: **Self-check completed** JJR **Peer-reviewer's Initials** JRG

1095418

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-4	A-C	1	VOC								12		✓					✓			✓							
	D-F	1	Methane								12		✓					✓			✓							
	6 (G)	1	NO2 NO3 SO4							4						✓				✓								
	H	1	Diss Fe Mn					4							✓							✓						
5	A-C	1	VOC		✓						3		✓					✓			✓							
Bottle Totals								4		4	27																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: Joe Rud. Date: 10/6/09

F042r02 Revised 9/8/2009

SHORT

1095449

SHANNON & WILSON, INC.
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(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3600

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory SGS
Attn: Jason Kottsick

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOC (HCl) SW 8260B	Methane, Ethane, Ethene (HCl) RSK175	Dissolved Fe/Mn (HNO3) SW6020	Chloride (H2SO4) EPA 300.0	Sulfate, Nitrate, Nitrite (N2 pres) SW 4056		Total Number of Containers	Remarks/Matrix
09FROBWA12	(5) A-C	08:00	10/6/09		X	X						3	water
09FROBWA13	(1) A-H	1200	↓		X	X	X	X	X	X		8	water; metals field filtered
09FROBWA14	(2)	13:40			X	X	X	X	X	X		8	↓
09FROBWA15	(3)	15:50			X	X	X	X	X	X		8	
09FROBWA16	(4) ↓	16:15	↓		X	X	X	X	X	X		8	

Project Information		Sample Receipt	
Project Number	32-1-17261-003	Total Number of Containers	
Project Name	Ft. Rich OUB	COC Seals/Intact? Y/N/NA	
Contact	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler	Andrew Lee	(attach shipping bill, if any)	

Instructions	
Requested Turnaround Time:	Standard
Special Instructions:	USACE/Corps Task order 001 Contract W911KB-08-D-0005 NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1700	Signature: Time: 11:05	Signature: Time:
Printed Name: Andrew Lee Date: 10/6/09	Printed Name: HAYDAR TURKER Date: 10/7/09	Printed Name: Date:
Company: Shannon & Wilson	Company: S & W	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 17:00	Signature: Time:	Signature: Time: 1105
Printed Name: HAYDAR TURKER Date: 10/6/09	Printed Name: Date:	Printed Name: Joe Rud Date: 10/7/09
Company: S & W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #03 70D TB=4.2 C=1.6

No. 23310

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-006	01	9/22/09	1095135	4	09FROAWA01	9/21/09	9:00	TB01	WQ
				1	09FROAWA02	9/21/09	15:48	AP3774	WG
				2	09FROAWA03	9/21/09	17:38	AP3870	WG
				3	09FROAWA04	9/21/09	18:30	EBOUE01	WQ
	02	9/24/09	1095181	7	09FROAWA05	9/23/09	8:00	TB02	WQ
				1	09FROAWA06	9/23/09	10:57	AP3871	WG
				2	09FROAWA07	9/23/09	13:24	AP3893	WG
				3	09FROAWA08	9/23/09	16:29	AP3534	WG
				4	09FROAWA09	9/23/09	16:34	AP9534	WG
				5	09FROAWA10	9/23/09	17:34	AP3468	WG
				6	09FROAWA11	9/23/09	18:15	EBOUE02	WQ
	03	9/25/09	1095214	8	09FROAWA12	9/24/09	9:00	TB03	WQ
				1,2,3	09FROAWA13	9/24/09	9:35	AP4341	WG
				4	09FROAWA14	9/24/09	10:01	AP4411	WG
				5	09FROAWA15	9/24/09	11:00	AP4342	WG
				6	09FROAWA16	9/24/09	12:55	AP4413	WG
				7	09FROAWA17	9/24/09	15:49	EBOUE03	WQ
09-007	01	9/28/09	1095252	9	09FR76WA01	9/25/09	8:00	TB04	WQ
				1	09FR76WA04	9/25/09	11:07	AP5002	WG
				2	09FR76WA05	9/25/09	11:09	AP9002	WG
				3	09FR76WA06	9/25/09	13:10	AP5004	WG
	02			10	09FR76WA02	9/25/09	8:05	TB05	WQ
				4	09FR76WA07	9/25/09	14:54	AP5038	WG
				5	09FR76WA09	9/25/09	17:20	EB76201	WQ
	03			11	09FR76WA03	9/25/09	8:10	TB06	WQ
				6,7,8	09FR76WA08	9/25/09	16:35	AP5000	WG
09-008	01	9/29/09	1095273	6	09FR78WA01	9/28/09	9:00	TB07	WQ
				1	09FR78WA02	9/28/09	13:54	AP4536	WG
				2	09FR78WA03	9/28/09	15:32	AP5008	WG
				3	09FR78WA04	9/28/09	15:40	AP9008	WG
	02			7	09FR78WA05	9/28/09	9:05	TB08	WQ
				4	09FR78WA06	9/28/09	16:54	AP4535	WG
				5	09FR78WA07	9/28/09	17:46	EB78601	WQ
	03	9/30/09	1095307	4	09FR78WA08	9/29/09	8:00	TB09	WQ
				1,2,3	09FR78WA09	9/29/09	10:30	AP5001	WG
	04	10/2/09	1095376	1	09FR78WA10	9/30/09	11:42	AP4537	WG
				2	09FR78WA11	9/30/09	14:00	AP4529	WG
				3	09FR78WA12	9/30/09	17:35	EB78602	WQ
				5	09FR78WA13	9/30/09	8:00	TB10	WQ
				4	09FR78WA14	10/1/09	10:45	AP5007	WG
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09	1095418	5	09FROBWA-07	10/5/09	8:00	TB12	WQ
				1	09FROBWA-08	10/5/09	11:20	AP4345	WG
				2	09FROBWA-09	10/5/09	13:15	AP5246	WG
				3	09FROBWA-10	10/5/09	15:30	AP3748	WG
				4	09FROBWA-11	10/5/09	15:57	EBOUB02	WQ
	03	10/7/09			09FROBWA-12	10/6/09	8:00	TB13	WQ
					09FROBWA-13	10/6/09	12:00	AP3747	WG
					09FROBWA-14	10/6/09	13:40	AP4019	WG
					09FROBWA-15	10/6/09	15:50	AP4011	WG
					09FROBWA-16	10/6/09	16:15	EBOUB03	WQ

1095449

SGS

1095449

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA	
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?
✓			If yes, have you done *e-mail ALERT notification*?
	✓		Are samples *within 24 hrs.* of **hold time** or **due date**?
		✓	If yes, have you also *spoken with* supervisor?
		✓	Archiving bottles: Are lids marked w/ red "X"?
✓			Were samples collected with proper preservative?
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**
		✓	If this is for PWS, provide **PWSID:**
	✓		Payment received: $_____ by Check or Credit Card
	✓		Will courier charges apply?
✓			Data package required? (Level: 1 / 2 / 3 / 4)
✓			Is this a DoD project? (USACE, Navy, AFCEE)

TAT (circle one): Standard -or- Rush

Received Date: 10/7/09

Received Time: 1105

Cooler ID	Temperature	Measured w/ (Therm #)
1	4.2 °C	70D
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
Client / Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved
✓ Ref Lab required for 1D-4D-F
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.* If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact? # / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*: Bubble Wrap / Vermiculite / Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID 1 Cooler Temp °C 4.2 Cooler ID _____ Cooler Temp °C _____
Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** Joe Boyle

Login proof: **Self-check completed** JJR **Peer-reviewer's Initials** _____

1095449

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-4	A-C	1	VOC								12		✓							.	✓							
	D-F	✓	methane								12		✓								✓							
	G		NO2 NO3 SO4							4						✓				✓								
	H	✓	Diss Fe Mn					4							✓							✓						
5	A-C	1	VOC		✓						3		✓					✓			✓							
Bottle Totals								4		4	27																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: Joe Rud Date: 10/1/09

1095470

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

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2043 Westport Center Drive
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(314) 699-9660

~~5430 Fairbanks Street, Suite 3~~
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3600

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

Laboratory: Vista
Attn: Jason Kottsick

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOC (HCl) SW 8260B	Methane, Ethane, Ethene (HCl) RSK-175	Dissolved Fe, Mn (HNO3) SW6020	Sulfate, Nitrate, Nitrite, Chloride (No Pres) SW 300.0			Total Number of Containers	Remarks/Matrix
09FROBWA17	⑧ A-C	1015	10/7/09		X	X						3	Water
09FROBWA18	① A-H	1140			X	X	X	X	X			8	Field filtered-metals
09FROBWA19	② A-H	1345			X	X	X	X	X			8	
09FROBWA20	③ A-F ④ A-H ⑤ A-F	1530			X	X	X	X	X			16	MS/MSD
09FROBWA21	⑥ A-H	1600			X	X	X	X	X			8	
09FROBWA22	⑦ A-H	1640	↓		X	X	X	X	X			8	↓ ↓

Project Information		Sample Receipt	
Project Number:	32-1-17261-003	Total Number of Containers	
Project Name:	Ft Rich - OLB	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Turker	Received Good Cond /Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	Shayla Swedlund	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001 Contract W911KB-08-D-0005 NFDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature:	Signature:	Signature:
Time: 1900	Time: 10:20	Time:
Printed Name: Shayla Swedlund	Printed Name: HAYDAR TURKER	Printed Name:
Date: 10/7/09	Date: 10/8/09	Date:
Company: Shannon+Wilson	Company: S&W	Company:
Received By: 1.	**Received By: 2.**	**Received By: 3.**
Signature:	Signature:	Signature:
Time: 19:00	Time:	Time: 1020
Printed Name: HAYDAR TURKER	Printed Name:	Printed Name:
Date: 10/7/09	Date:	Date: 10-8-09
Company: S&W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #04 10d TB = 3.1 C = 2.8

No. 25313

SGS

1095470

SAMPLE RECEIPT FORM

SGS WO#: _____

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	
✓			If yes, have you done *e-mail ALERT notification*?	
✓			Are samples *within 24 hrs.* of hold time or **due date**?	
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:** _____	
		✓	Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes: _____	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): (Standard) -or- Rush

Received Date: 10-8-09

Received Time: 1020

Cooler ID	Temperature	Measured w/ (Therm #)
4	3.1 °C	70A
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):

(Client) / Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)

_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
✓ Ref Lab required for METHANE
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		# / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID 4 Cooler Temp °C 3.1 Cooler ID _____ Cooler Temp °C _____
Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted:

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes: _____

Completed by (sign): _____ **(print):** JAMES DOOGAN

Login proof: **Self-check completed** ✓ **Peer-reviewer's Initials** JJR

1095470

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1,2,6, 7	A-C	1	VOC 8260								12		✓					✓			✓							
	D-F		METHANE ETHENE ETHANE								12		✓					✓			✓							
	G		NO_3 NO_3 Cl SO_4							4						✓			✓									
	H		Diss Metals Fe Mn					4							✓							✓						
3	A,B	1	VOC 8260								2		✓					✓			✓							
	C,D		Meth ETHE ETHANE								2		✓					✓			✓							
	E		NO_2 NO_3 Cl SO_4							1						✓			✓									
	F		Diss Fe Mn					1							✓							✓						
4	A,B		VOC 8260	HJ							2		✓					✓			✓							
	C,M		Methane ETHENE ETHANE	HJ							2		✓					✓			✓							
	E		NO_2 NO_3 Cl SO_4	HJ					5	1	A	3E																
	F		Diss Fe Mn	HJ					↓	↓	↓	3F																
	G		EXTRA VOC	HJ						1						✓				✓								
	H		EXTRA VOC	HJ				1							✓							✓						
5	A,B		VOC 8260	HJ/I							2		✓					✓			✓							
	C,D		Methane ETHENE ETHANE	HJ/I							2		✓					✓			✓							
			Bottle Totals					6		6	36																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: _____ Date: 10-8-09

1095470

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
5	E	1	NO_2 NO_3 Cl SO_4	330					5	1	A	3E																
	F		Nitr Fe M_2	330					↓	↓	↓	3F																
8	A·C	1	VOC 8260		✓						3		✓					✓			✓							

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09	1095418	5	09FROBWA-07	10/5/09	8:00	TB12	WQ
				1	09FROBWA-08	10/5/09	11:20	AP4345	WG
				2	09FROBWA-09	10/5/09	13:15	AP5246	WG
				3	09FROBWA-10	10/5/09	15:30	AP3748	WG
				4	09FROBWA-11	10/5/09	15:57	EBOUB02	WQ
	03	10/7/09	5449		09FROBWA-12	10/6/09	8:00	TB13	WQ
					09FROBWA-13	10/6/09	12:00	AP3747	WG
					09FROBWA-14	10/6/09	13:40	AP4019	WG
					09FROBWA-15	10/6/09	15:50	AP4011	WG
					09FROBWA-16	10/6/09	16:15	EBOUB03	WQ
	04	10/8/09	5470		09FROBWA-17	10/7/09	10:15	TB14	WQ
					09FROBWA-18	10/7/09	11:40	AP4525	WG
					09FROBWA-19	10/7/09	13:45	AP3989	WG
					09FROBWA-20	10/7/09	15:30	AP4518	WG
					09FROBWA-21	10/7/09	16:00	EBOUB04	WQ
					09FROBWA-22	10/7/09	16:40	AP3983	WG

1095470

1095502

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5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory: SGS
Attn: Jason Cottrick

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (HCl) SW8260B	Methane, Ethane, Ethene (HCl) RSK-175	Dissolved Fe, Mn (HNO3) SW6020	Sulfate, Chloride, Nitrate/Nitrite (NO3+S) SW9056			Total Number of Containers	Remarks/Matrix
09FROBWA23	⑦ A-C	1057	10/8/09		X	X						3	Water:
09FROBWA 24	① A-4	1130	↓		X	X	X	X	X			8	; Field filtered Metals
09FROBWA 25	②	1135			X	X	X	X	X			8	;
09FROBWA 26	③	1300			X	X	X	X	X			8	;
09FROBWA 27	④	1452			X	X	X	X	X			8	;
09FROBWA 28	⑤	1600			X	X	X	X	X			8	;
09FROBWA29	⑥ ↓	1620	↓		X	X	X	X	X			8	;

Project Information		Sample Receipt	
Project Number:	321-17261-003	Total Number of Containers	
Project Name:	FT Rich-OUB	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler:	Shayla Swedlund	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001
Contract W911KB-08-D-0005
NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 1810	Signature: Time: 9:45	Signature: Time:
Printed Name: Shayla Swedlund Date: 10/8/09	Printed Name: H. Turker Date: 10/9/09	Printed Name: Date:
Company: Shannon Wilson	Company: S & W	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 18:10	Signature: Time:	Signature: Time: 0945
Printed Name: Haydar Turker Date: 10/8/09	Printed Name: Date:	Printed Name: Joe Rul. 10/9/09
Company: S & W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #05 70D TB = 6.0 C = 1.4

No. 29199

S 1095502



Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Cod
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09	1095418	5	09FROBWA-07	10/5/09	8:00	TB12	WQ
				1	09FROBWA-08	10/5/09	11:20	AP4345	WG
				2	09FROBWA-09	10/5/09	13:15	AP5246	WG
				3	09FROBWA-10	10/5/09	15:30	AP3748	WG
				4	09FROBWA-11	10/5/09	15:57	EBOUB02	WQ
	03	10/7/09	1095449	5	09FROBWA-12	10/6/09	8:00	TB13	WQ
				1	09FROBWA-13	10/6/09	12:00	AP3747	WG
				2	09FROBWA-14	10/6/09	13:40	AP4019	WG
				3	09FROBWA-15	10/6/09	15:50	AP4011	WG
				4	09FROBWA-16	10/6/09	16:15	EBOUB03	WQ
	04	10/8/09	1095470	8	09FROBWA-17	10/7/09	10:15	TB14	WQ
				1	09FROBWA-18	10/7/09	11:40	AP4525	WG
				2	09FROBWA-19	10/7/09	13:45	AP3989	WG
				3,4,5	09FROBWA-20	10/7/09	15:30	AP4518	WG
				6	09FROBWA-21	10/7/09	16:00	EBOUB04	WQ
				7	09FROBWA-22	10/7/09	16:40	AP3983	WG
	05	10/9/09			09FROBWA-23	10/8/09	10:57	TB15	WQ
					09FROBWA-24	10/8/09	11:30	AP3745	WG
					09FROBWA-25	10/8/09	11:35	AP9745	WG
					09FROBWA-26	10/8/09	13:00	AP4550	WG
					09FROBWA-27	10/8/09	14:52	AP3982	WG
					09FROBWA-28	10/8/09	16:00	AP3744	WG
					09FROBWA-29	10/8/09	16:20	EBOUB05	WQ

SGS

SAMPLE RECEIPT FORM

SGS WO#: 1095502

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	
✓			If yes, have you done *e-mail ALERT notification*?	
✓			Are samples *within 24 hrs.* of **hold time** or **due date**?	
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
	✓		Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes:	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): Standard -or- Rush

Received Date: 10.9.09

Received Time: 0945

Cooler ID	Temperature	Measured w/ (Therm #)
5	6.0 °C	700
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):
Client / Alert Courier / Lynden / SGS UPS / FedEx / USPS / DHL / Carlile AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)
_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
✓ Ref Lab required for METHANE
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
✓		Was cooler sealed with custody seals & were they intact? #'s, where:
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*: (Bubble Wrap) Vermiculite Other (specify):
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID: 5 Cooler Temp °C: 6.0 Cooler ID: _____ Cooler Temp °C: _____
Cooler ID: _____ Cooler Temp °C: _____ Cooler ID: _____ Cooler Temp °C: _____

This section must be completed if problems are noted:

Was client notified of problems? Yes / No
By (SGS PM): _____
Individual contacted: _____
Via: Phone / Fax / E-mail *(circle one)*
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** MIKE PACHOT

Login proof: **Self-check completed** ✓ **Peer-reviewer's Initials** JSQ

1095502

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-6	A-C	1	VOC 8260								18		✓					✓			✓							
	D-F		Methane Ethane Ethene								18		✓					✓			✓							
	G		NO_3 NO_2 Cl SO4							6						✓				✓								
	H		Diss Metals Fe Mn					6							✓							✓						
7	A-C	1	VOC 8260		✓						3		✓					✓			✓							
Bottle Totals								6		6	39																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: Jon Davis Date: 10-09-09

F042r02 Revised 9/8/2009

1095529

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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory: SGS

Attn: Jason Kottsick

SHORT HOLDING

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp	Grab	VOCs (HCl) SW 8260B	Methane, Ethane, Ethene (HCl) RSK 175	Dissolved Fe, Mn (HNO3) SW 6020	Chloride, Nitrate/Nitrite (no preservative) EPA 300.0 SW 9056	Sulfate SW 6020		Total Number of Containers	Remarks/Matrix
09FROBWA30	(11) A-C	1015	10/9/09		X	X						3	Water
09FROBWA31	(1) A-H	1125			X	X	X	X	X			8	; Metals=Field filtered
09FROBWA32	(2)	1130			X	X	X	X	X			6	;
09FROBWA33	(3)	1210			X	X	X	X	X			8	;
09FROBWA34	(4) A-F (5) A-H (6) A-F	1345			X	X	X	X	X			16	; ; MS/MSD
09FROBWA35	(7) A-H	1530			X	X	X	X	X			8	;
09FROBWA36	(8)	1718			X	X	X	X	X			8	;
09FROBWA37	(9)	1720			X	X	X	X	X			8	;
09FROBWA38	(10)	1745			X	X	X	X	X			8	;

Project Information		Sample Receipt	
Project Number:	32-1-17261-003	Total Number of Containers	
Project Name:	FRich-003	COC Seals/Intact? Y/N/NA	
Contact:	Haydar Tunker	Received Good Cond./Cold	
Ongoing Project?	Yes [X] No [ ]	Delivery Method:	
Sampler:	Shayla Swedlund	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001
Contract W911-KB-08-D-0005
NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature:	Time: 1920	Signature:	Time: 9:10	Signature:	Time:
Printed Name: Shayla Swedlund	Date: 10/9/09	Printed Name: Haydar Tunker	Date: 10/10/09	Printed Name:	Date:
Company: Shannon + Wilson		Company: S&W		Company:	
Received By: 1.		**Received By: 2.**		**Received By: 3.**	
Signature:	Time: 19:20	Signature:	Time:	Signature:	Time: 0910
Printed Name: Haydar Tunker	Date: 10/9/09	Printed Name:	Date:	Printed Name: JAMES DOUGHTY	Date: 10-10-09
Company: S&W		Company:		Company: SGS	

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #06 70d TP = 3.2 r = 3.4

No. 29323

1095529

Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09	1095418	5	09FROBWA-07	10/5/09	8:00	TB12	WQ
				1	09FROBWA-08	10/5/09	11:20	AP4345	WG
				2	09FROBWA-09	10/5/09	13:15	AP5246	WG
				3	09FROBWA-10	10/5/09	15:30	AP3748	WG
				4	09FROBWA-11	10/5/09	15:57	EBOUB02	WQ
	03	10/7/09	1095449	5	09FROBWA-12	10/6/09	8:00	TB13	WQ
				1	09FROBWA-13	10/6/09	12:00	AP3747	WG
				2	09FROBWA-14	10/6/09	13:40	AP4019	WG
				3	09FROBWA-15	10/6/09	15:50	AP4011	WG
				4	09FROBWA-16	10/6/09	16:15	EBOUB03	WQ
	04	10/8/09	1095470	8	09FROBWA-17	10/7/09	10:15	TB14	WQ
				1	09FROBWA-18	10/7/09	11:40	AP4525	WG
				2	09FROBWA-19	10/7/09	13:45	AP3989	WG
				3,4,5	09FROBWA-20	10/7/09	15:30	AP4518	WG
				6	09FROBWA-21	10/7/09	16:00	EBOUB04	WQ
				7	09FROBWA-22	10/7/09	16:40	AP3983	WG
	05	10/9/09			09FROBWA-23	10/8/09	10:57	TB15	WQ
					09FROBWA-24	10/8/09	11:30	AP3745	WG
					09FROBWA-25	10/8/09	11:35	AP9745	WG
					09FROBWA-26	10/8/09	13:00	AP4550	WG
					09FROBWA-27	10/8/09	14:52	AP3982	WG
					09FROBWA-28	10/8/09	16:00	AP3744	WG
					09FROBWA-29	10/8/09	16:20	EBOUB05	WQ
	06	10/10/09			09FROBWA-30	10/9/09	10:15	TB16	WQ
					09FROBWA-31	10/9/09	11:25	AP4353	WG
					09FROBWA-32	10/9/09	11:30	AP9353	WG
					09FROBWA-33	10/9/09	12:10	AP4354	WG
					09FROBWA-34	10/9/09	13:45	AP3981	WG
					09FROBWA-35	10/9/09	15:30	AP3985	WG
					09FROBWA-36	10/9/09	17:18	AP4519	WG
					09FROBWA-37	10/9/09	17:20	AP9519	WG
					09FROBWA-38	10/9/09	17:45	EBOUB06	WQ

SGS

1095529

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of **hold time**?	
✓			If yes, have you done *e-mail ALERT notification*?	
✓			Are samples *within 24 hrs.* of **hold time** or **due date**?	
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	
		✓	If this is for PWS, provide **PWSID:**	
		✓	Payment received: $_____ by Check or Credit Card	
	✓		Will courier charges apply?	
✓			Data package required? (Level: 1 / 2 / 3 / 4)	
			Notes: USACE	
✓			Is this a DoD project? (USACE, Navy, AFCEE)	

TAT (circle one): (Standard) -or- Rush

Received Date: 10-10-09

Received Time: 0910

Cooler ID	Temperature	Measured w/ (Therm #)
6	3.2 °C	70d
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply):

(Client) / Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)

_____ Extra Sample Volume?
_____ Limited Sample Volume?
_____ Multi-Incremental Samples?
_____ Lab-filtered for dissolved_____
✓ Ref Lab required for ASK 175
_____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact? # / where: _____
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*: (Bubble Wrap) Vermiculite Other (specify): _____
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID 6 Cooler Temp °C 3.4 Cooler ID _____ Cooler Temp °C _____
Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted.

Was client notified of problems? Yes / No

By (SGS PM): _____

Individual contacted: _____

Via: Phone / Fax / E-mail *(circle one)*

Date/Time: _____

Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** JAMES POCCHITI

Login proof: **Self-check completed** JP **Peer-reviewer's Initials** _____

1095529

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-3 7-10	A-C	1	VOC 8260								21		✓					✓			✓						
	D-F		RSK 175								21		✓					✓			✓						
	G		NO_2 NO_3 SO_4 Cl							1						✓				✓							
	H		Diss Fe Mn					1							✓							✓					
4	A,B	1	VOC 8260								2		✓					✓			✓						
	C,D		RSK 175								2		✓					✓			✓						
	E		NO_2 NO_3 SO_4 Cl							1						✓				✓							
	F		Diss Fe Mn					1							✓							✓					
5	A,B	1	VOC 8260	MS							2		✓					✓			✓						
	C,D		RSK 175	MS							2		✓					✓			✓						
	E		NO_2 NO_3 SO_4 Cl	MS					5	1	1	4E															
	F		Diss Fe Mn	MS					↓	↓	↓	4F															
	G		EXTRA VOC	MS						1						✓				✓							
	H		↓	MS				1							✓							✓					
6	AB	1	VOC 8260	MS/MSD							2		✓					✓			✓						
	CD		RSK 175	MS/MSD							2		✓					✓			✓						
			Bottle Totals					9		9	54																

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: _____ Date: 10-10-09

F042r02 Revised 9/8/2009

1095529

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH4Cl	Other:	*Notes
6	E	1	NO3, NO2, SO4, Cl	3E					5	3	A	4E															
	F		Diss Fe, Mn	3D					↓	↓	↓	4F															
11	A-C	1	VOC 8260		✓						3		✓					✓			✓						
Bottle Totals											3																

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: _____ Date: 10-10-09

F042r02 Revised 9/8/2009

1095547

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

CHAIN-OF-CUSTODY RECORD

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

303 Wellsian Way
Richland, WA 99352
(509) 946-6309

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

1200 17th Street, Suite 1024
Denver, Co 80202
(303) 825-3800

Laboratory SGS Page 1 of 1
Attn: Jason Kottsick

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	VOCs (HCL) SW 8260B	Methane, Ethane, Ethene (HCL) RSK-175	Chloride, Sulfate, Nitrate/Nitrite SW 9056A	Dissolved Fe + Mn (HNO3) SW 6020			Total Number of Containers	Remarks/Matrix
09FROBWA39	④ A-C	1000	10/12/09		X	X						3	Water
09FROBWA40	① A-H	1143			X	X	X	X	X			8	↓ Metals-field Filtered
09FROBWA41	② ↓	1408			X	X	X	X	X			8	↓ ↓
09FROBWA42	③ ↓	1426	↓		X	X	X	X	X			8	↓ ↓

SHORT HOLDING

Project Information		Sample Receipt	
Project Number	32-1-17261-003	Total Number of Containers	
Project Name	FRich-OUB	COC Seals/Intact? Y/N/NA	
Contact	Haydar Turker	Received Good Cond./Cold	
Ongoing Project?	Yes ☒ No ☐	Delivery Method:	
Sampler	Shayla Swedlund	(attach shipping bill, if any)	

Instructions

Requested Turnaround Time: Standard

Special Instructions: USACE/Corps Task Order 001
Contract W911-KB-08-D-0005
NPDL 09-005

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: Time: 0750	Signature: Time: 9:40	Signature: Time:
Printed Name: Shayla Swedlund Date: 10/13/09	Printed Name: Haydar Turker Date: 10/14/09	Printed Name: Date:
Company: Shannon + Wilson	Company: S & W	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 07:50	Signature: Time:	Signature: Time: 0940
Printed Name: Haydar Turker Date: 10/13/09	Printed Name: Date:	Printed Name: James Doucht Date: 10-13-09
Company: S & W	Company:	Company: SGS

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

F-19-91/UR

Cooler #07 70a TB = 3.7 C = 3.9

No. 29273

SGS

1095547

SAMPLE RECEIPT FORM

SGS WO#:

Yes	No	NA		
✓			Are samples **RUSH**, priority or *w/in 72 hrs* of hold time?	**TAT (circle one):** ~~Standard~~ **-or- Rush**
✓			If yes, have you done *e-mail ALERT notification*?	**Received Date:** 10-13-09
✓			Are samples *within 24 hrs.* of ~~hold time~~ or **due date**?	**Received Time:** 0940
✓			If yes, have you also *spoken with* supervisor?	
		✓	Archiving bottles: Are lids marked w/ red "X"?	
✓			Were samples collected with proper preservative?	
	✓		**Any problems (ID, cond'n, HT, etc)? Explain:**	

Cooler ID	Temperature	Measured w/ (Therm #)
7	3.7 °C	70d
	°C	
	°C	
	°C	

Note: Temperature readings include thermometer correction factors

		✓	If this is for PWS, provide **PWSID:**
	✓		Payment received: $_____ by Check or Credit Card
	✓		Will courier charges apply?
✓			Data package required? (Level: 1 / 2 / 3 / 4)
			Notes: USACE
✓			Is this a DoD project? (USACE, Navy, AFCEE)

Delivery method (circle all that apply):
Client / Alert Courier / Lynden / SGS
UPS / FedEx / USPS / DHL / Carlile
AkAir Goldstreak / NAC / ERA / PenAir
Other: _____

Additional Sample Remarks: (√ *if applicable*)
_____Extra Sample Volume?
_____Limited Sample Volume?
_____Multi-Incremental Samples?
_____Lab-filtered for dissolved_____
_____Ref Lab required for_____
_____Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE):

Yes	No	
✓		Is received temperature ≤6°C?
✓		Were containers ice-free? *Notify PM immediately of any ice in samples.*
		If some cooler temperatures are non-compliant, see form FS-0029 (attached) for samples/analyses affected.
	✓	Was there an airbill? *(If "yes," see attached.)*
	✓	Was cooler sealed with custody seals & were they intact?
		#'s/where:
✓		Was there a COC with cooler?
	✓	Was COC sealed in plastic bag & taped inside lid of cooler?
✓		Was the COC filled out properly? Did labels correspond?
✓		Did the COC indicate USACE / Navy / AFCEE project?
		Samples were packed to prevent breakage with *(circle one)*:
		(Bubble Wrap) Vermiculite Other (specify):
✓		Were all samples sealed in separate plastic bags?
✓		Were all VOCs free of headspace and/or MeOH preserved?
✓		Were correct container / sample sizes submitted?
✓		Was the PM notified of arrival so they can send Sample Receipt Acknowledgement to client?

Cooler ID 7 Cooler Temp °C 3.7 Cooler ID _____ Cooler Temp °C _____
Cooler ID _____ Cooler Temp °C _____ Cooler ID _____ Cooler Temp °C _____

This section must be completed if problems are noted:

Was client notified of problems? Yes / No
By (SGS PM): _____
Individual contacted: _____
Via: Phone / Fax / E-mail *(circle one)*
Date/Time: _____
Reason for contact: _____

Change Order Required? Yes / No

Notes:

Completed by (sign): _____ **(print):** JAMES DOUGHTY

Login proof: **Self-check completed** _____ **Peer-reviewer's Initials** _____

1095547

SGS

SAMPLE RECEIPT FORM - Bottle Tracking SGS WO#

#	Container ID	Matrix	Test	QC	TB	Container Volume: 1L	500mL	250mL or 8oz	125mL or 4oz	60mL	40mL	Other:	Container Type: AG	CG	HDPE	Nalgene	Coli	Septa	Other:	Preservative: None	HCl	HNO3	H2SO4	NaOH	Ascorbic Acid	NH_4Cl	Other:	*Notes
1-3	A-C	1	VOC 8260 B								9		✓					✓			✓							
	D-F		RSK								9		✓					✓			✓							
	G		NO_2 NO_3							3						✓				✓								
	H		Diss Fe Mn					3							✓							✓						
4	A-C	1	VOC 8260 B								3		✓					✓			✓							
Bottle Totals								3		3	21																	

* Note: Containers which require (additional) chemical preservation upon receipt must be documented per SOP#106

Completed by: _____ Date: 10-13-09

F042r02 Revised 9/8/2009

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Sample LOCID and Matrix Code List

NPDL #	Cooler/ Custody Seal Number	Delivery Date	Laboratory SDG Number	Lab #	Sample ID	Collection Date	Collection Time	LOCID	Matrix Code
09-005	01	10/3/09	1095391	6	09FROBWA01	10/2/09	8:00	TB11	WQ
				1	09FROBWA02	10/2/09	10:50	AP3749	WG
				2	09FROBWA03	10/2/09	13:03	AP4350	WG
				3	09FROBWA04	10/2/09	15:15	AP4344	WG
				4	09FROBWA05	10/2/09	16:00	EBOUB01	WQ
				5	09FROBWA06	10/2/09	16:35	AP4551	WG
	02	10/6/09	1095418	5	09FROBWA-07	10/5/09	8:00	TB12	WQ
				1	09FROBWA-08	10/5/09	11:20	AP4345	WG
				2	09FROBWA-09	10/5/09	13:15	AP5246	WG
				3	09FROBWA-10	10/5/09	15:30	AP3748	WG
				4	09FROBWA-11	10/5/09	15:57	EBOUB02	WQ
	03	10/7/09	1095449	5	09FROBWA-12	10/6/09	8:00	TB13	WQ
				1	09FROBWA-13	10/6/09	12:00	AP3747	WG
				2	09FROBWA-14	10/6/09	13:40	AP4019	WG
				3	09FROBWA-15	10/6/09	15:50	AP4011	WG
				4	09FROBWA-16	10/6/09	16:15	EBOUB03	WQ
	04	10/8/09	1095470	8	09FROBWA-17	10/7/09	10:15	TB14	WQ
				1	09FROBWA-18	10/7/09	11:40	AP4525	WG
				2	09FROBWA-19	10/7/09	13:45	AP3989	WG
				3,4,5	09FROBWA-20	10/7/09	15:30	AP4518	WG
				6	09FROBWA-21	10/7/09	16:00	EBOUB04	WQ
				7	09FROBWA-22	10/7/09	16:40	AP3983	WG
	05	10/9/09			09FROBWA-23	10/8/09	10:57	TB15	WQ
					09FROBWA-24	10/8/09	11:30	AP3745	WG
					09FROBWA-25	10/8/09	11:35	AP9745	WG
					09FROBWA-26	10/8/09	13:00	AP4550	WG
					09FROBWA-27	10/8/09	14:52	AP3982	WG
					09FROBWA-28	10/8/09	16:00	AP3744	WG
					09FROBWA-29	10/8/09	16:20	EBOUB05	WQ
	06	10/10/09			09FROBWA-30	10/9/09	10:15	TB16	WQ
					09FROBWA-31	10/9/09	11:25	AP4353	WG
					09FROBWA-32	10/9/09	11:30	AP9353	WG
					09FROBWA-33	10/9/09	12:10	AP4354	WG
					09FROBWA-34	10/9/09	13:45	AP3981	WG
					09FROBWA-35	10/9/09	15:30	AP3985	WG
					09FROBWA-36	10/9/09	17:18	AP4519	WG
					09FROBWA-37	10/9/09	17:20	AP9519	WG
					09FROBWA-38	10/9/09	17:45	EBOUB06	WQ
	07	10/13/09			09FROBWA-39	10/12/09	10:00	TB17	WQ
					09FROBWA-40	10/12/09	11:43	AP4017	WG
					09FROBWA-41	10/12/09	14:08	AP3984	WG
					09FROBWA-42	10/12/09	14:26	EBOUB07	WQ

Appendix B5
COELT (electronic only)