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2009 Additional Site Assessment Report

Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska
File No: 100.38.206

January 8, 2010

ARCADIS

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309152

Figures

Appendices

1. Introduction

On behalf of Chevron Environmental Management Company (Chevron EMC), ARCADIS U.S., Inc. (ARCADIS) has prepared the 2009 Additional Site Assessment Report for former Chevron Facility 309152 (the site) located at 6223 Old Airport Road in Fairbanks, Alaska (shown on **Figure 1**). The report has been prepared in response to the Alaska Department of Environmental Conservation (ADEC) request for additional assessment work at the site. This work was conducted under the direction of a "qualified person" [18 AAC 75. 990 (100), and 18 AAC 78.995 (118)].

2. Site Description

According to lease information provided by the Fairbanks International Airport (FIA), Standard Oil leased the subject property from 1962 until 1972. Eight above-ground storage tanks (ASTs) and a fueling island were located on the property for the storage and distribution of petroleum products. The tank farm was dismantled in approximately 1973; the property has been used as warehouse space since that time. The site is generally flat with a sloping surface along the western side.

A limited site assessment was conducted on behalf of FIA in fall 2006. Field screening of soil and groundwater samples collected as part of this assessment indicated the presence of petroleum impacts at the site. During a project review meeting in April 2007, the Alaska Department of Environmental Conservation (ADEC) requested a comprehensive assessment of the site.

Based on the results of the fall 2006 limited site assessment, five monitoring wells (MW-1 through MW-5) were installed in July 2007 in areas identified as potential source areas and/or in areas identified as having elevated absorbed and dissolved-phase hydrocarbon concentrations, and in a manner to adequately characterize groundwater flow direction. Of the five installed monitoring wells; four monitoring wells exceeded ADEC Soil Cleanup Levels (SCL) for one or more of the contaminates of concern: gasoline range organics (GRO), diesel range organics (DRO), and benzene, toluene, ethylbenzene, total xylenes (BTEX). Light non-aqueous phase liquid (LNAPL) was detected in monitoring wells MW-2 and MW-3 in March 2008.

To further characterize the source area and delineate the area of impact, in July 2008 an additional site assessment was conducted and included the installation of seven wells. Three onsite groundwater monitoring wells (MW-6, MW-9 and MW-10), three offsite groundwater monitoring wells (MW-7, MW-8, and MW-11) and one onsite

recovery well (RW-1) were installed. Soil samples collected from MW-6 at depths between 9.0 and 12.5 feet below ground surface (bgs) contained concentrations of DRO above the ADEC SCL. A soil sample collected from MW-8 at a depth of 3.0 feet bgs contained concentrations of DRO above the ADEC SCL. A soil sample collected from MW-9 at a depth of 13.0 feet bgs contained concentrations of benzene above the ADEC SCL. Historical and current soil analytical data can be viewed on **Table 1**.

Beginning in October 2008, LNAPL has been observed on the groundwater surface in MW-6 and in MW-9. In addition, LNAPL has been observed intermittently on the groundwater surface in RW-1 since March 2009. Historically, LNAPL has been observed in seven onsite wells (MW-1 through MW-4, MW-6, MW-9, and RW-1). In April and May 2008, product typing analyses were conducted by Zymax Forensics on LNAPL samples collected from MW-1, MW-2, and MW-9 in late March 2008. Analyses of the samples concluded that the product collected from these wells contains different proportions of aviation gasoline and unweathered jet fuel. The proportion of product defined as aviation gasoline was greatest in MW-9.

3. Additional Site Assessment – Piezometer Installation

In response to ADEC's request to assess potential impacts to the pond in the drainage basin, two piezometers (PZ-1 and PZ-2) were installed at the shore of the pond in the drainage basin, located to the west and northwest (downgradient) of the site. The locations of the two piezometers relative to site features are shown on **Figure 2**.

On July 28, 2009, ARCADIS retained a private utility locating company to assure utility clearance in the vicinity of the proposed piezometer locations. During the survey, no utilities were located in the immediate vicinity of the proposed locations.

On July 29, 2009, each boring location was advanced using hand auger and post-hole digging equipment. During the advancement of PZ-1 and PZ-2, groundwater was encountered at a depth of approximately 1 foot and 1.5 feet bgs, respectively. Due to soil sloughing into the boreholes during boring advancement, the final depth of PZ-1 and PZ-2 boreholes was measured at approximately 3 feet and 3.5 feet, respectively. Soil samples from both borings were collected continuously on six-inch intervals from the hand auger bucket, and were field-screened using a photoionization detector (PID). Soils were classified using the United Soil Classification System (USCS); based upon screening results and the depth to water encountered, two soil samples were submitted (PZ-1-10-12" and PZ-2-16-18") to Test America of Anchorage and analyzed

for GRO by Alaska Method AK 101, DRO by Alaska Method AK 102, residual range organics (RRO) by Alaska Method AK 103, and BTEX by US EPA Method 8021B.

The piezometers were constructed of four foot 2.0-inch-diameter Schedule 40 PVC well casings with a 2.5-inch-outside-diameter pre-pack and slotted with three feet of 0.01-inch PVC screen. Due to the boreholes losing stability during boring advancement, the screened interval was higher than expected and the bentonite seal was placed closer to the surface. To seal off surface waters from infiltrating the pre-pack, a 4.0-inch-diameter Schedule 40 PVC well casing was placed over the 2.0-inch PVC and pre-pack. The sand pack (#10/20 silica sand) was placed from the bottom of the borehole between 3.0 and 3.5 feet bgs, up to approximately 1 foot to 8 inches bgs. Medium bentonite chips were placed in the interval between approximately 8 and 4 inches bgs and hydrated with deionized (DI) water. Approximately four to six inches of #10/20 silica sand followed by clean native backfill to the surface. Boring logs showing well construction are attached in **Appendix A**.

Piezometer developments occurred after PZ-1 and PZ-2 were installed. The development was performed by surging the wells over the length of the screen interval, and then purging until the water was relatively free of suspended sediments. Approximately four gallons and two gallons of water were purged from PZ-1 and PZ-2, respectively.

3.1 Site Geology

The Fairbanks region is typically underlain by 330 to almost 600 feet of Quarternary fluvial and glaciofluvial sediment (sand and gravel covered by fine sediments and organic matter) originating from the Alaska Range (NRCS, 2004). The shallow soils logged near the pond during the 2009 assessment ranged from well graded sandy gravels to silty sands. Previous assessments onsite have observed well- to poorly-graded sands to silt from the ground surface to approximately five to eight feet bgs, followed by gravels, sands, and silts to approximately 15 feet bgs. The subsurface lithology at the site is indicative of glaciofluvial deposits with channeling.

3.2 Soil Analytical Results

Laboratory-submitted soil samples were collected above saturation at a depth of 10 to 12 inches bgs in the PZ-1 boring and at a depth of 16 to 18 inches bgs in the PZ-2 boring. The soil analytical results indicate that DRO concentrations in soil exceed the ADEC SCL (250 milligrams per kilogram [mg/kg]) in shallow soils near the groundwater

and surface water interface at the locations of the two piezometers. Soils collected from PZ-1-10-12" and PZ-2-16-18" contained DRO concentrations of 425 and 1,130 mg/kg, respectively.

GRO was not detected in concentrations exceeding the ADEC SCL (300 mg/kg). GRO was detected in PZ-1-10-12" at a concentration of 11.6 mg/kg and in PZ-2-16-18" at a concentration of 255 mg/kg.

RRO was not detected in concentrations exceeding the ADEC SCL (11,000 mg/kg). RRO was detected in PZ-1-10-12" at a concentration of 133 mg/kg, and was not detected above the laboratory method detection limit (MDL) in soil sample PZ-2-16-18".

Benzene, toluene, ethylbenzene, and total xylenes were not detected in concentrations exceeding the laboratory MDL for PZ-1-10-12" and PZ-2-16-18". Soil analytical data is summarized on **Table 1** and shown on **Figure 3**.

3.3 Groundwater Analytical Results – Petroleum Hydrocarbons

Groundwater samples were collected from PZ-1 and PZ-2 on August 3, 2009. Groundwater analytical results indicate that one or more of GRO, DRO, RRO and benzene exceeded their respective ADEC groundwater cleanup levels (GCLs) in PZ-1 and PZ-2. A duplicate groundwater sample (DUP-1) was collected from PZ-2.

GRO was detected greater than the ADEC GCL (2,200 μg/L) in PZ-1 and PZ-2 at concentrations of 2,540 and 2,410 μg/L, respectively. The duplicate groundwater sample had a GRO concentration of 3,330 μg/L.

DRO was detected greater than the ADEC GCL (1,500 μg/L) in PZ-1 and PZ-2 at concentrations of 9,970 and 9,930 μg/L, respectively. The duplicate groundwater sample had a DRO concentration of 11,200 μg/L.

RRO was detected greater than the ADEC GCL (1,100 μg/L) in PZ-1 at a concentration of 1,320. RRO was detected in PZ-2 at a concentration less than the ADEC GCL at 807 μg/L. The duplicate groundwater sample had a RRO concentration of 1,150 μg/L.

Benzene was detected greater than the ADEC GCL (5 μg/L) in PZ-1 and PZ-2 at concentrations of 232 and 270 μg/L, respectively. The duplicate groundwater sample had a benzene concentration of 283 μg/L.

Toluene, ethylbenzene, and total xylenes were not detected at concentrations exceeding their respective ADEC GCLs in PZ-1, PZ-2, and DUP-1. Groundwater analytical data for petroleum hydrocarbons is summarized on **Table 2** and shown on **Figure 4**.

3.4 Groundwater Analytical Results – Polynuclear Aromatic Hydrocarbons

Groundwater analytical results indicate that no polynuclear aromatic hydrocarbons (PAHs) exceeded their respective ADEC GCLs in PZ-1 and PZ-2. The laboratory MDL for the PAH dibenz (a,h) anthracene was elevated above the ADEC GCL (0.12 μg/L) due to sample matrix effects; however, there were no detections of dibenz (a,h) anthracene above the reporting limit. Groundwater analytical data for PAHs are summarized on **Table 3**.

3.5 Groundwater Analytical Results – Volatile Organic Compounds

Groundwater analytical results indicate that no volatile organic compounds (VOCs) exceeded their respective ADEC GCLs in PZ-1 and PZ-2. Due to sample dilution, the laboratory MDLs for VOCs 1,1-dichloroethane (1,1-DCE), carbon tetrachloride, 1,2-dichloroethane (1,2-DCA), trichloroethene (TCE), and tetrachloroethene (PCE) were elevated above their respective ADEC GCLs; however, there were no detections of the listed VOCs above their respective MDLs. Groundwater analytical data for VOCs are summarized on **Table 4**.

4. Additional Site Assessment – Stormwater Culvert Sampling and Surface Water Cleanup Criteria

In order to assess the potential for other sources of impacts to the drainage basin, a stormwater culvert located adjacent and to the west of the site was sampled on September 19, 2009. The stormwater culvert empties into the drainage basin. The stormwater culvert sampling was conducted during a time of elevated precipitation in the Fairbanks area. The location of the stormwater culvert relative to the site is shown on **Figure 2**.

4.1 Stormwater Analytical Results

DRO and RRO were detected in the water samples collected from the stormwater culvert (STORMWATER-1) at concentrations of 990 and 596 μg/L, respectively. GRO, benzene, ethylbenzene, toluene, and total xylenes were not detected above their respective laboratory MDLs. Stormwater analytical data are shown on **Figure 4**.

Given that the destination of the stormwater is surface water body, there have been no established cleanup concentrations in surface water for individual petroleum hydrocarbon constituents. For surface waters, the total aromatic hydrocarbon (TAH) concentration is calculated as the sum of concentrations of benzene, ethylbenzene, toluene and total xylenes. The cleanup level for TAH in surface waters is 10 μg/L (ADEC, 2009). The TAH concentration in the STORMWATER-1 sample cannot be calculated as benzene, ethylbenezene, toluene, and total xylenes were not detected above their laboratory MDLs. Stormwater analytical data with reference to TAH are summarized on **Table 5**.

As with TAH, the total aqueous hydrocarbon concentration (TAqH) is calculated as the sum of BTEX and 17 PAH concentrations (listed on **Table 6**). The cleanup level for TAqH in surface waters is 15 μg/L (ADEC, 2009). The TAqH concentration in the STORMWATER-1 sample cannot be calculated as BTEX and PAHs were non-detect in the sample.

Stormwater analytical results indicate that no VOCs were detected above laboratory MDLs in STORMWATER-1. Analytical data for stormwater VOCs are summarized with groundwater VOCs on **Table 4**.

4.2 PZ-1 and PZ-2 Hydrocarbon Concentrations in Correlation with Surface Water Cleanup Criteria

Given the locations of PZ-1 and PZ-2 (approximately within 5 feet of the pond), hydrocarbon concentrations exhibited at PZ-1 and PZ-2 may be similar to hydrocarbon concentrations at the actual surface water/groundwater interface immediately downgradient of PZ-1 and PZ-2.

As discussed in Section 4, ADEC water quality standard for petroleum hydrocarbons in surface waters requires that the TAqH and TAH concentrations are below 15 μg/L and 10 μg/L, respectively.

Applying hydrocarbon concentrations exhibited in PZ-1 and PZ-2 to the TAH calculation yields TAH concentrations of 1,043 and 1,019 μg/L, respectively. Applying hydrocarbon concentrations exhibited in PZ-1 and PZ-2 to the TAqH calculation yields TAqH concentrations of 1,048 and 1,147 μg/L, respectively.

The TAH and TAqH concentrations exhibited in PZ-1 and PZ-2 exceed the respective surface water cleanup levels of 10 μg/L and 15 μg/L. The TAH and TAqH concentrations in PZ-1 and PZ-2 represent near-surface conditions in the groundwater prior to interfacing with the surface water in the drainage basin; concentrations of TAH and TAqH in the surface water column may be less than groundwater concentrations due to mixing and dilution.

5. Laboratory Data Quality Assurance Summary

As required by ADEC (Technical Memorandum 06-002, dated August 20, 2008), ARCADIS completed a laboratory data review checklist for the Test America reports from the 2009 site assessment. The laboratory analytical reports are included in **Appendix B** and the ADEC data review checklists are included in **Appendix C**.

5.1 Accuracy

The data meets accuracy objectives by the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for laboratory reports ASG0075 and ASH036 with the following exception: In laboratory report ASG0075, the soil sample PZ-1-10-12" surrogate dibromofluoromethane was below recovery acceptance limits (75-125%) at 71.6%. The surrogate 4-BFB was outside the associated recovery acceptance limit (75-125%) at 74.6% due to sample matrix effects. In laboratory report ASH0036, the surrogate dibromofluoromethane was below recovery acceptance limits (81-124%) at 75.9%. In sample PZ-2, the surrogate dibromofluoromethane was below recovery acceptance limits (81-124%) at 75.4%. In laboratory report ASI0097, The surrogate dibromofluoromethane was outside the specified recovery range for LCS, LCS duplicate, MS, and MS duplicate QC for GRO and BTEX analyses.

5.2 Precision

Based on the LCS/LCSD, matrix spike (MS), and matrix spike duplicate (MSD) relative percent differences (RPD), the data meets precision objectives for laboratory report numbers ASG0075 and ASH036.

5.3 Representativeness

The data appear to be representative of on- and offsite conditions and are generally consistent with objectives to further delineate the site impacts.

5.4 Comparability

The laboratory results are presented in the same units as previous reports to allow for comparison.

5.5 Completeness

Soil sample results (ASG0075) for GRO, DRO, RRO, and BTEX appear to be valid and usable.

Groundwater sample results (ASH0036) for GRO, DRO, RRO, BTEX, PAHs, and VOCs appear to be valid and usable.

Stormwater sample results (ASI0097) for GRO, DRO, RRO, BTEX, PAHs, and VOCs appear to be valid and usable.

5.6 Sensitivity

The sensitivity of the analyses for soil was adequate for the samples as the MDLs were less than the ADEC SCLs.

The sensitivity of the analyses for groundwater was adequate for the samples as the MDLs were less than the ADEC GCLs. The sensitivity of the analyses for PAH dibenz (a,h) anthracene and VOCs 1,1-DCE, carbon tetrachloride, 1,2-DCA, TCE, and PCE was not adequate for the samples as the MDL was raised above the corresponding ADEC GCL. The laboratory MDL was raised due to sample dilution due to high concentrations of non-target analytes.

6. Management of Investigation Derived Wastes

Development water and soil cuttings generated during the field activities were contained in Department of Transportation (DOT) approved, 55-gallon steel drums (PW-2 and COMP-1-S). The investigation derived waste (IDW) was appropriately labeled and is pending proper disposal.

7. Conclusions

On July 29, 2009, two piezometers (PZ-1 and PZ-2) were installed near the shoreline of the drainage basin to assess the potential impact for groundwater affecting surface waters. Shallow soil samples collected during the installation of PZ-1 and PZ-2 exceeded the ADEC SCL for DRO. Groundwater samples collected from PZ-1 and PZ-2 exceeded the ADEC GCLs for one or more of GRO, DRO, RRO, and benzene.

The TAH and TAqH concentrations exhibited in PZ-1 and PZ-2 exceed the respective surface water cleanup levels of 10 μg/L and 15 μg/L. The TAH and TAqH concentrations in PZ-1 and PZ-2 represent near-surface conditions in the groundwater prior to interfacing with the surface water in the drainage basin.

On September 19, 2009, water samples were collected from an adjacent stormwater culvert to the west. Analytical samples showed DRO and RRO concentrations of 990 and 596 μg/L, respectively.

8. References

ADEC. *Technical Memorandum 06-002*, January 2009.

ADEC. *Water Quality Standards, 18 AAC 70, Register 191,* October 2009.

API. *Evaluating Hydrocarbon Removal from Source Zones and its Effect on Dissolved Plume Longevity and Magnitude*. September 2002.

NRCS and USDA. 2004 Soil Survey of Greater Fairbanks Area, Alaska. 2004. Natural Resource Conservation and U.S. Department of Agriculture.

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Tables

TABLE 1

Soil Analytical Data - Petroleum Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Depth/ Interval	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC Soil Cleanup Levels[1]			**300**	**250**	**11,000**	**0.025**	**6.5**	**6.9**	**63**
MW-1	9.5-11.5'	07/28/07	4,300	4,700	--	<1.2	1.4	<17	180
	14.5-16.5'	07/28/07	1,500	3,000	--	<11	0.7	<5.8	35
MW-2	9.0-11.0'	07/29/07	1,900	1,800	--	0.9	5.8	17	77
	14.0-16.0'	07/29/07	140	78	--	0.1	0.4	1.5	7
MW-3	9.5-11.5'	07/28/07	4,000	8,300	--	3.2	25	36	140
	14.5-6.5'	07/28/07	4,300	11,000	--	3.7	38	66	260
MW-4	9.0-11.0'	07/28/07	1,300	2,900	--	<0.4	3.3	9.7	40
	14.0-16.0'	07/28/07	1,900	2,800	--	1.2	13	26	100
MW-5	9.5-11.5'	07/29/07	<0.4	<4.6	--	<0.003	0.004	<0.003	<0.01
	14.5-16.5'	07/29/07	<0.5	<4.9	--	<0.005	0.01	<0.005	<0.02
RW-1	11.0-11.5'	07/11/08	171 [2]	210	--	0.124	<0.185	1.28	5.96
	13.0-13.5'	07/11/08	277 [2]	194	--	0.164	0.423	2.82	12.4
MW-6	9.0-9.5'	07/11/08	153 [2]	524	--	<0.113	<0.188	0.563	2.07
	12.0-12.5'	07/11/08	204 [2]	1,150	--	<0.115	<0.192	0.857	5.61
MW-7	9.0'	07/12/08	<32.8 [2,3]	10.9	--	<0.197 [3]	<0.328 [3]	<0.328 [3]	<0.656 [3]
	12.0'	07/12/08	7.10	<5.55	--	<0.0375	<0.0624	<0.0624	1.30
MW-8	3.0'	07/11/08	51.5 [2]	718	--	<0.147	<0.245	0.490	<0.490
MW-9	11.0'	07/11/08	20.9	6.43	--	<0.0228	0.187	0.200	1.19
	13.0'	07/11/08	61.0	7.30	--	0.0282	0.339	0.815	4.15
MW-10	8.5-9.0'	07/15/08	<4.56	<4.80	--	<0.0274	<0.0456	<0.0456	<0.0912
	11.5-12.0'	07/15/08	<5.09	<4.99	--	<0.0305	0.0718	<0.0509	<0.102
MW-11	9.0'	07/14/08	<4.09	<4.55	--	<0.0245	<0.0409	<0.0409	<0.0817
	10.5'	07/14/08	<4.24	<4.66	--	<0.0255	<0.0424	<0.0424	<0.0849
PZ-1-10-12"	**10-12"**	**07/29/09**	**11.6**	**425**	**133**	**<0.0129**	**<0.0322**	**<0.0322**	**<0.0482**
PZ-2-16-18"	**16-18"**	**07/29/09**	**255 [4]**	**1,130**	**<56.2**	**<0.0133**	**<0.0333**	**<0.0333**	**<0.0500**

Notes:

All results are reported in milligrams per kilogram (mg/kg).

Gasoline range organics (GRO) was analyzed by AK Method 101.

Diesel range organics (DRO) was analyzed by AK Method 102.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

Highlighted cell indicates concentration exceeds respective soil cleanup level.

< = not detected greater than the laboratory reporting limit indicated.

[1] ADEC Soil Cleanup Levels (SCLs) per 18 AAC 75.355, Table B1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.

[3] Reporting limit raised due to sample matrix effects.

[4] Sample required dilution due to high concentrations of target analyte.

TABLE 2

Groundwater Analytical Data - Petroleum Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC Groundwater Cleanup Levels[1]		2,200	1,500	1,100	5	1,000	700	10,000
PZ-1	08/03/09	2,540	9,970	1,320	232 [2,3]	5.30	28.0 [2,3]	778 [2,3]
PZ-2	08/03/09	2,410	9,930	807	270 [2,3]	3.42	64.4 [2,3]	681 [2,3]
PZ-2 [D]	08/03/09	3,330	11,200	1,150	283 [2,3]	5.26	62.4 [2,4]	797
Trip Blank	--	<50.0	--	--	<0.500	<1.00	<1.00	<3.00

Notes:

All results are reported in micrograms per liter (µg/L).

Gasoline range organics (GRO) was analyzed by AK Method 101.

Diesel range organics (DRO) was analyzed by AK Method 102.

Residual range organics (RRO) was analyzed by AK Method 103.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

[D] Duplicate sample collected.

Highlighted concentrations are greater than the applicable ADEC GCL.

< = not detected greater than the laboratory reporting limit indicated.

[1] ADEC Groundwater Cleanup Levels (GCLs) per 18 AAC 75.355, Table C1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Sample required dilution due to high concentrations of target analyte.

[3] Concentration reported by the EPA 8260B method was greater than concentration reported by the AK 101 method.

[4] No established cleanup level for the individual petroleum hydrocarbon concentrations associated with the storm water sample.

TABLE 3

Groundwater Analytical Data - Polynuclear Aromatic Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Monitoring Well ID	Sample Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo (a) anthracene	Chrysene	Benzo (b) fluoranthene	Benzo (k) flouranthene	Benzo (a) pyrene	Indeno (1, 2, 3-cd) pyrene	Dibenz (a,h) anthracene
ADEC Groundwater Cleanup Levels[1]		**730**	**2,200**	**2,200**	**1,500**	**11,000**	**11,000**	**1,500**	**1,100**	**1.2**	**120**	**1.2**	**12**	**0.2**	**1.2**	**0.12**
PZ-1	**08/03/09**	**4.21**	**<0.388 [3]**	**<0.777 [3]**	**<0.388 [3]**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.0971**	**<0.194**
PZ-2	**08/03/09**	**128 [2]**	**<0.980 [3]**	**<1.47 [3]**	**<0.980 [3]**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.0980**	**<0.196**
PZ-2 [D]	**08/03/09**	**130 [2]**	**<0.962 [3]**	**<1.44 [3]**	**<0.962 [3]**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.0962**	**<0.192**

Notes:

All results are reported in micrograms per liter (µg/L).

[D] Duplicate sample collected.

Highlighted values indicate an exceedance of the respective GCL.

Bold type indicates most recent sampling event.

< = not detected greater than the laboratory reporting limit indicated.

-- Not analyzed

[1] ADEC Groundwater Cleanup Levels (GCLs) per 18 AAC 75.355, Table C1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Concentration reported by the EPA 8260B method was greater than concentration reported by EPA Method 8270M-SIM.

[3] Reporting limit raised due to sample matrix effects.

TABLE 4

Groundwater and Storm Water Analytical Data - Volatile Organic Compounds
Former Chevron Facility 309152
6223 Old Airport Road Fairbanks, Alaska

EPA Method:		8011	8260B							
Well	Sample Date	1,2-dibromomethane	1,1-dichloroethene	carbon tetrachloride	1,2-dichloroethane	naphthalene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	trichloroethene	tetrachloroethene
ADEC GCL [1]		0.05	7	5	5	730	1,800	1,800	5	5
PZ-1	08/03/09	<0.100 [3]	<20.0 [2]	<20.0 [2]	<20.0 [2]	<40.0 [2]	52.6 [2]	<20.0 [2]	<20.0 [2]	<20.0 [2]
PZ-2	08/03/09	<0.100 [3]	<20.0 [2]	<20.0 [2]	<20.0 [2]	128 [2]	153 [2]	50.6 [2]	<20.0 [2]	<20.0 [2]
PZ-2 [D]	08/03/09	<0.100 [3]	<20.0 [2]	<20.0 [2]	<20.0 [2]	130 [2]	143 [2]	48.8 [2]	<20.0 [2]	<20.0 [2]
STORM WATER-1	09/19/09	<0.0100[5]	<1.0	<1.0	<1.0	<0.094[4]	<1.0	<1.0	<1.0	<1.0

Notes:

All results are reported in micrograms per liter (µg/L)

VOC = volatile organic compounds; analyzed using EPA Method 8260B.

GCL = ADEC 18 AAC 75 Groundwater Cleanup Level

Bold Type = Results of most recent sampling event

Highlighted concentrations are greater than the applicable ADEC GCL.

-- not analyzed.

< = not detected greater than the laboratory reporting limit indicated.

[1] ADEC Groundwater Cleanup Levels (GCLs) per 18 AAC 75.355, Table C1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Sample required dilution due to high concentrations of target analyte.

[3] Sample analyzed via EPA Method 504.1.

[4] Lowest detection limit achieved via EPA Method 8270C.

[5] Sample analysis performed past method-specified holding time.

TABLE 5

Storm Water Analytical Data - Total Aromatic Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	TAH[2]
ADEC Water Quality Criteria[1]		--	--	--	--	--	--	--	10
STORM WATER-1	**09/19/09**	**<50.0**	**990**	**596**	**<0.500**	**<1.00**	**<1.00**	**<3.00**	**NC***

Notes:

All results are reported in micrograms per liter (µg/L).

Gasoline range organics (GRO) was analyzed by AK Method 101.

Diesel range organics (DRO) was analyzed by AK Method 102.

Residual range organics (RRO) was analyzed by AK Method 103.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

NC = not calculated.

< = not detected greater than the laboratory reporting limit indicated.

-- Not analyzed/not applicable.

[1] ADEC Water Quality Standards Table per 18 AAC 70.020. Register 191, October 2009.

[2] TAH calculated as the sum of BTEX.

* BTEX constituents were below the minimum laboratory detection limit; TAH could not be calculated.

TABLE 6

Storm Water Analytical Data - Total Aqueous Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

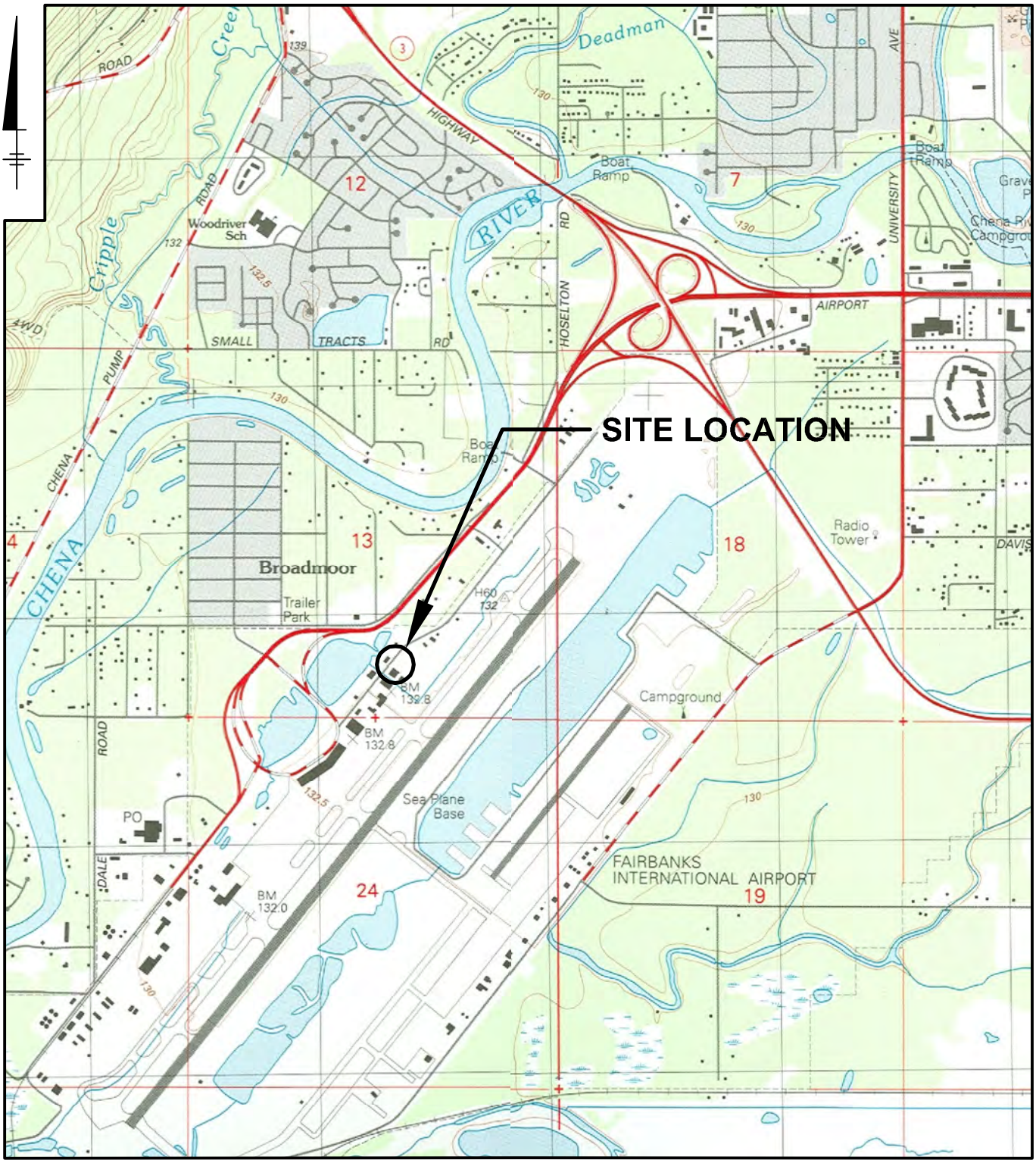
Sample Location ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acenaphthene	Anthracene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) flouranthene	Benzo (a) pyrene	Bis(2-ethylhexyl)phthalate	Dibenz (a,h) anthracene	Di-nbutylphthalate	Diethyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indeno (1, 2, 3-cd) pyrene	Naphthalene	Pyrene	TAqH
ADEC Water Quality Criteria[1]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
STORM WATER-1	**09/19/09**	**<0.500**	**<1.00**	**<1.00**	**<3.00**	**<0.094**	**<0.094**	**<0.094**	**<0.094**	**<0.094**	**<0.19**	**<0.094**	**<0.094**	**--**	**--**	**--**	**<0.094**	**<0.094**	**<0.094**	**<0.094**	**<0.094**	**NC***

Notes:

All results are reported in micrograms per liter (µg/L).
Highlighted values indicate an exceedance of the respective GCL.
Bold type indicates most recent sampling event.
-- = not analyzed/not applicable.
< = not detected greater than the laboratory reporting limit indicated.
PAHs analyzed via EPA Method 8270C.
NC = not calculated.
[1] ADEC Water Quality Standards Table per 18 AAC 70.020. Register 191, October 2009.
[2] TAH calculated as the sum of BTEX and the 17 PAHs listed.
* BTEX and PAH constituents were below the minimum laboratory detection limit; TAqH could not be calculated.

ARCADIS

Figures



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SW, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 13, TOWNSHIP: 1S, RANGE: 2W

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

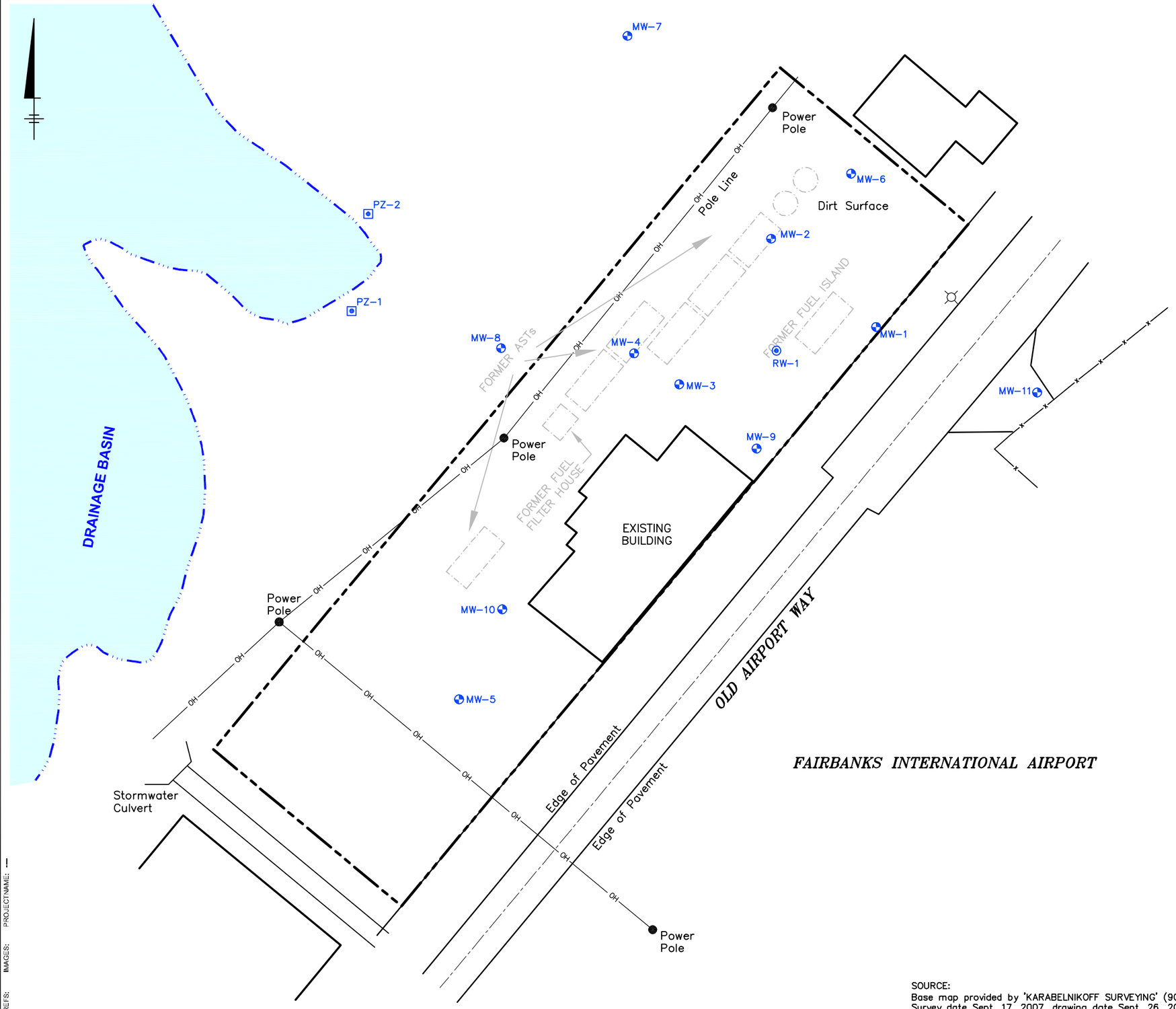
FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2009 ADDITIONAL SITE ASSESSMENT

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY:TMAPA,FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:M.Strickler TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Tampa-BVACT\B0045803\0003\00002\SA 2009\B0045803N01.dwg LAYOUT: 1 SAVED: 9/10/2009 12:19 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: PDF-AP PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 10/9/2009 12:10 PM BY: RICHARDS, JIM
XREFS: IMAGES: ALASKA.jpg Fairbanks-SW.jpg Fairbanks-SW2.jpg PROJECTNAME: --



LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Piezometer
- Light Pole
- OH — Overhead Lines

0 50' 100'

GRAPHIC SCALE

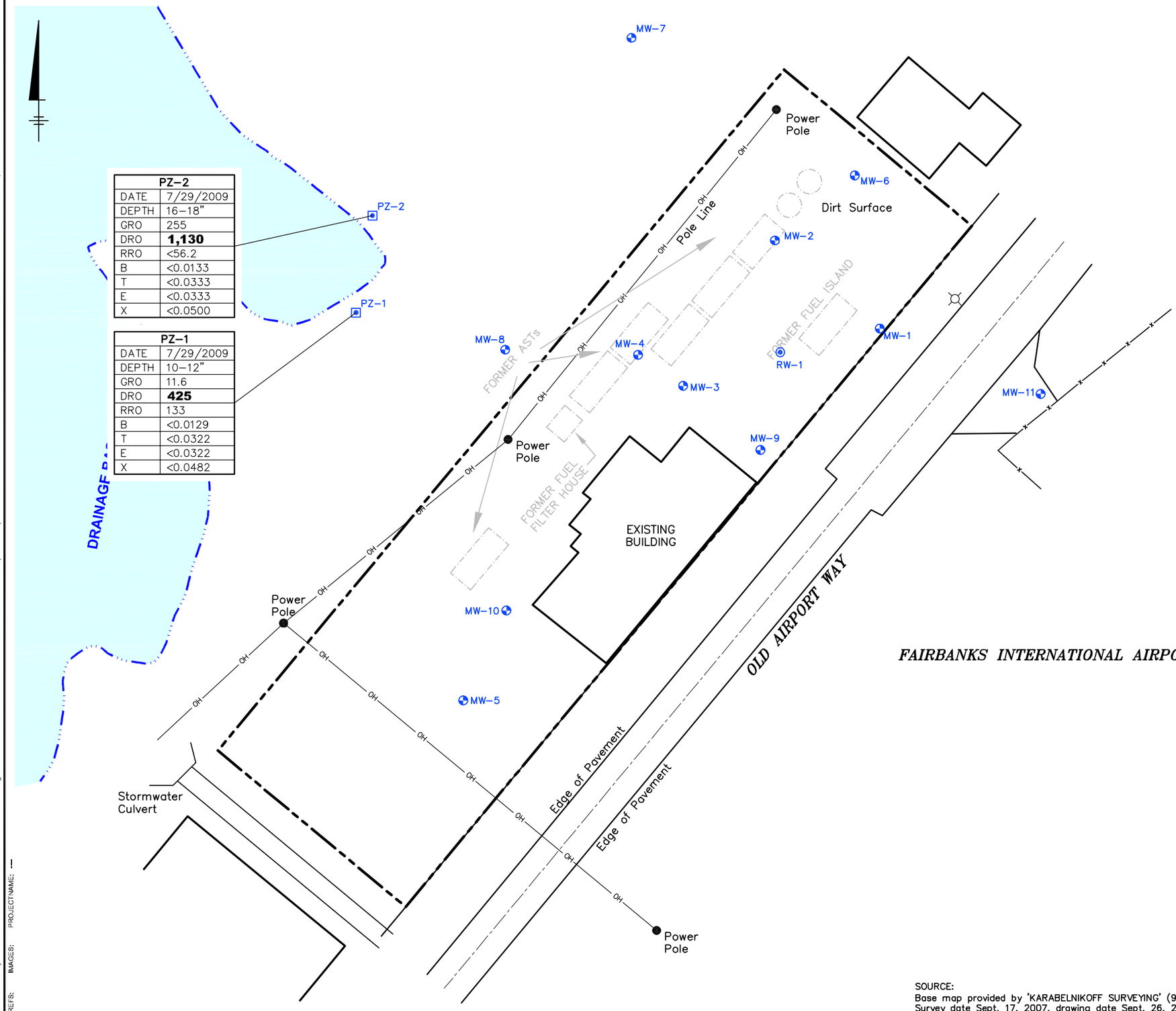
SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337-3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2009 ADDITIONAL SITE ASSESSMENT

SITE MAP

ARCADIS

FIGURE
2



PZ-2	
DATE	7/29/2009
DEPTH	16–18"
GRO	255
DRO	**1,130**
RRO	<56.2
B	<0.0133
T	<0.0333
E	<0.0333
X	<0.0500

PZ-1	
DATE	7/29/2009
DEPTH	10–12"
GRO	11.6
DRO	**425**
RRO	133
B	<0.0129
T	<0.0322
E	<0.0322
X	<0.0482

LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Piezometer
- Light Pole
- OH — Overhead Lines

SAMPLE LOCATION	
DATE	SAMPLE DATE
DEPTH	SAMPLE DEPTH (FEET)
GRO	GASOLINE RANGE ORGANICS
DRO	DIESEL RANGE ORGANICS
RRO	RESIDUAL RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

BOLDED CONCENTRATIONS ARE GREATER THAN THE ADEC SOIL CLEANUP LEVEL FOR MIGRATION TO GROUNDWATER, UNDER 40–INCH ZONE.

FAIRBANKS INTERNATIONAL AIRPORT

0 50' 100'

GRAPHIC SCALE

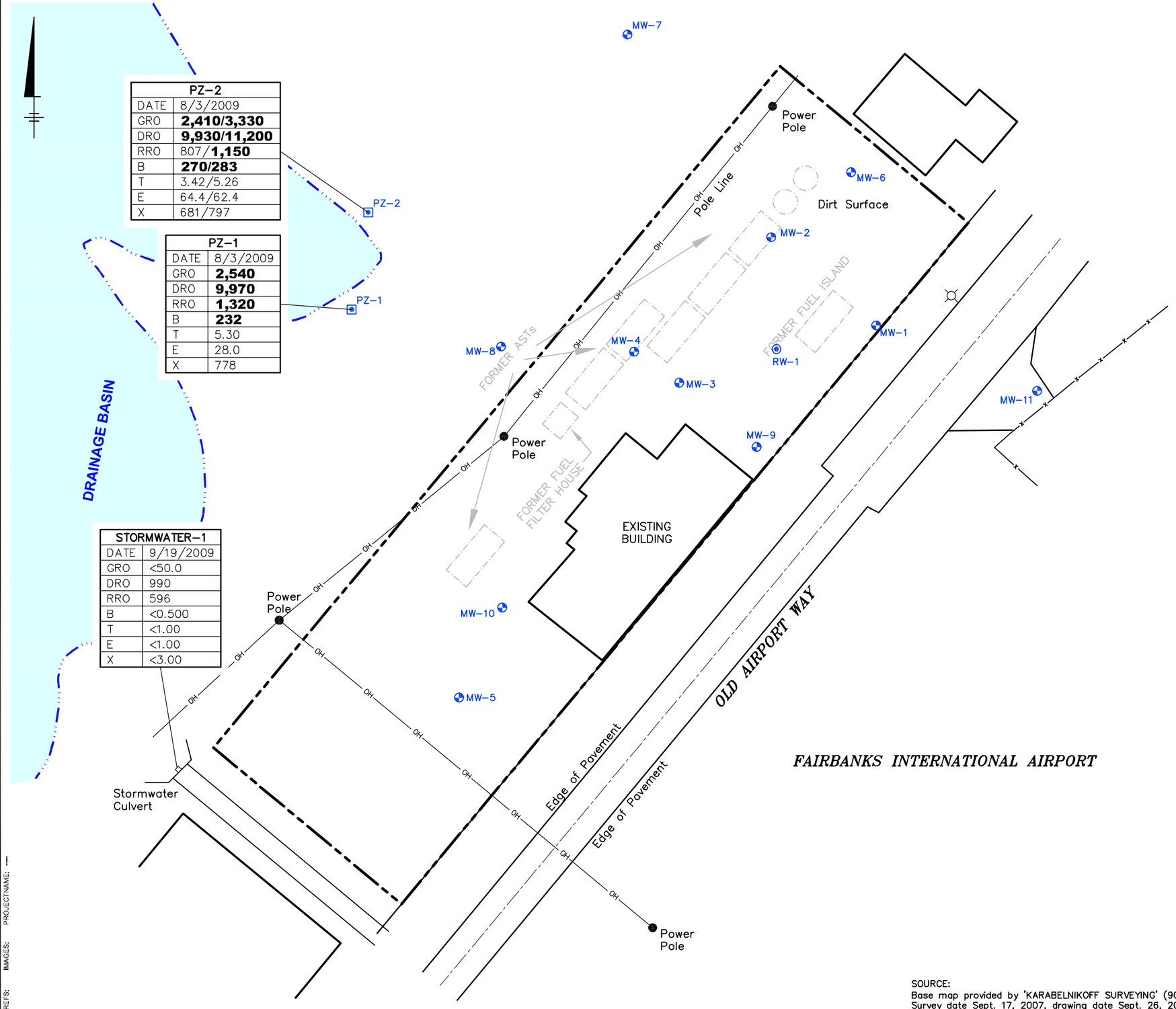
SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337–3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by Mclane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2009 ADDITIONAL SITE ASSESSMENT

SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS

ARCADIS

FIGURE 3



FAIRBANKS INTERNATIONAL AIRPORT

LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Piezometer
- Light Pole
- OH — Overhead Lines

SAMPLE LOCATION	
DATE	SAMPLE DATE
GRO	GASOLINE RANGE ORGANICS
DRO	DIESEL RANGE ORGANICS
RRO	RESIDUAL RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)

BOLDED CONCENTRATIONS ARE GREATER THAN THE ADEC GROUNDWATER CLEANUP LEVEL

2,410/3,330 = DUPLICATE SAMPLE COLLECTED

0 50' 100'

GRAPHIC SCALE

SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337-3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by Mclane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2009 ADDITIONAL SITE ASSESSMENT

GROUNDWATER AND STORMWATER ANALYTICAL DATA - PETROLEUM HYDROCARBONS

ARCADIS

FIGURE 4

ARCADIS

Appendix A

Boring Logs

Date Start/Finish: 07/29/09
Drilling Company: ARCADIS
Driller's Name: Andrew Ohrt and Russell Greisler
Drilling Method: Hand Auger
Auger Size: 4.0 inch
Rig Type: NA
Sampling Method: Hand Auger

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 3.0 feet bgs
Surface Elevation: NA

Descriptions By: JRG

Well/Boring ID: **PZ-1**

Client: Chevron

Location: 6223 Old Airport Road, Fairbanks, Alaska

DEPTH	ELEVATION	Sample Run Number	Sample Interval (ft bgs)	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0			0-0.5	0.5			17.8		SP		GRAVELLY SAND (SP); brown, moist, poorly graded coarse sand, slight hydrocarbon-like odor, organics present.	4-inch Sch. 40 PVC well casing with 4-inch J-plug 2-inch Sch. 40 PVC well casing with 2-inch J-plug Native Backfill 10/20 Silica Sand Hydrated medium bentonite chips
1			0.5-1.0	0.5			5.9	X			As above, wet.	
			1.0-1.5	0.5			48.7		SW		SAND (SW); gray-brown, wet, well graded medium sand, trace silt, trace gravel, hydrocarbon-like odor.	10/20 Silica Sand pack to 3.0 feet bgs
2			1.5-2.0	0.5			118		SM		SILTY SAND (SM); gray, wet, poorly graded fine sand with silt, hydrocarbon-like odor.	
			2.0-2.5	0.5			156				As above.	2-inch Sch. 40 PVC with 0.02-inch outer pre-pack PVC well screen
3			2.5-3.0	0.5			91.8				As above.	Base of well at 3'

ARCADIS
Infrastructure, environment, buildings

Remarks: bgs = below ground surface

NA = Not available and/or not applicable

Analytical sample (PZ-1-10-12") collected above saturation from 10-12" bgs.

Date Start/Finish: 07/29/09
Drilling Company: ARCADIS
Driller's Name: Andrew Ohrt and Russell Greisler
Drilling Method: Hand Auger
Auger Size: 4.0 inch
Rig Type: NA
Sampling Method: Hand Auger

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 3.5 feet bgs
Surface Elevation: NA

Descriptions By: JRG

Well/Boring ID: **PZ-2**

Client: Chevron

Location: 6223 Old Airport Road, Fairbanks, Alaska

DEPTH	ELEVATION	Sample Run Number	Sample Interval (ft bgs)	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0		0-0.5	0.5			0.9		SP		GRAVELLY SAND (SP); brown, moist, poorly graded medium to coarse sand, organic material and wood present.	4-inch Sch. 40 PVC well casing with 4-inch J-plug 2-inch Sch. 40 PVC well casing with 2-inch J-plug Native Backfill 10/20 Silica Sand
			0.5-1.0	0.5			173				As above, hydrocarbon-like odor.	Hydrated medium bentonite chips
1			1.0-1.5	0.5			237		SW		SAND (SW); gray-brown, wet, well graded medium sand, trace silt, trace gravel, slight hydrocarbon-like odor.	10/20 Silica Sand pack to 3.5 feet bgs
			1.5-2.0	0.5			80.9				As above.	
2			2.0-2.5	0.5			34.5		SM		SILTY SAND (SM); gray, wet, poorly graded fine sand with silt, hydrocarbon-like odor.	2-inch Sch. 40 PVC with 0.02-inch outer pre-pack PVC well screen
			2.5-3.0	0.5			36.9				As above.	
3			3.0-3.5	0.5			41.4				As above.	Base of well at 3.5'

ARCADIS
Infrastructure, environment, buildings

Remarks: bgs = below ground surface

NA = Not available and/or not applicable

Analytical sample (PZ-2-16-18") collected above saturation from 16-18" bgs.

ARCADIS

Appendix B

Laboratory Analytical Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

August 14, 2009

Greg Montgomery
Arcadis - Seattle
2300 East Lake Ave East Suite 100
Seattle, WA 98102

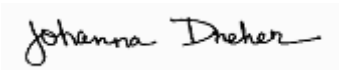
RE: Saupe

Enclosed are the results of analyses for samples received by the laboratory on 07/31/09 09:00. The following list is a summary of the Work Orders contained in this report, generated on 08/14/09 16:35.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
ASG0075	Saupe	B0045803

TestAmerica Anchorage



Johanna L Dreher, Client Services Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PZ-1-10-12"	ASG0075-01	Soil	07/29/09 12:30	07/31/09 09:00
PZ-2-16-18"	ASG0075-02	Soil	07/29/09 15:15	07/31/09 09:00

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

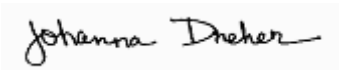
Analytical Case Narrative

TestAmerica - Anchorage, AK

ASG0075

Methanol perservative was added to samples ASG0075 -01 and ASG0075 -02 upon receipt in Anchorage.

TestAmerica Anchorage



Johanna L Dreher, Client Services Manager

TestAmerica
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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASG0075-01 (PZ-1-10-12'')		**Soil**					**Sampled: 07/29/09 12:30**				
Diesel Range Organics	AK102/103	**425**	-----	24.2	mg/kg dry	1x	9080008	08/04/09 08:05	08/07/09 10:10	JN	
Residual Range Organics	"	**133**	-----	60.6	"	"	"	"	"	JN	
Surrogate(s): 1-Chlorooctadecane			*99.2%*		*50 - 150 %*	"				"	
Triacontane			*111%*		*50 - 150 %*	"				"	
ASG0075-02 (PZ-2-16-18'')		**Soil**					**Sampled: 07/29/09 15:15**				
Diesel Range Organics	AK102/103	**1130**	-----	22.5	mg/kg dry	1x	9080008	08/04/09 08:05	08/07/09 10:10	JN	
Residual Range Organics	"	ND	-----	56.2	"	"	"	"	"	JN	
Surrogate(s): 1-Chlorooctadecane			*94.2%*		*50 - 150 %*	"				"	
Triacontane			*92.1%*		*50 - 150 %*	"				"	

TestAmerica Anchorage

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Johanna L Dreher, Client Services Manager

TestAmerica
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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

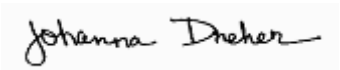
Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASG0075-01 (PZ-1-10-12'')		**Soil**				**Sampled: 07/29/09 12:30**					
Gasoline Range Organics	EPA 8260B	**11.6**	-----	3.22	mg/kg dry	0.751 x	9080004	08/03/09 08:55	08/04/09 22:59	ds	
Benzene	"	ND	-----	0.0129	"	"	"	"	"	ds	
Toluene	"	ND	-----	0.0322	"	"	"	"	"	ds	
Ethylbenzene	"	ND	-----	0.0322	"	"	"	"	"	ds	
Xylenes (total)	"	ND	-----	0.0482	"	"	"	"	"	ds	
Surrogate(s): *Dibromofluoromethane*			*76.0%*		*75 - 125 %*	"			"		
a,a,a-TFT			*105%*		*50 - 150 %*	"			"		
Toluene-d8			*96.3%*		*75 - 125 %*	"			"		
4-BFB			*101%*		*75 - 125 %*	"			"		
ASG0075-02 (PZ-2-16-18'')		**Soil**				**Sampled: 07/29/09 15:15**					
Benzene	EPA 8260B	ND	-----	0.0133	mg/kg dry	0.751	9080004	08/03/09 08:55	08/04/09 23:32	ds	
Toluene	"	ND	-----	0.0333	"	"	"	"	"	ds	
Ethylbenzene	"	ND	-----	0.0333	"	"	"	"	"	ds	
Xylenes (total)	"	ND	-----	0.0500	"	"	"	"	"	ds	
Surrogate(s): *Dibromofluoromethane*			*71.6%*		*75 - 125 %*	"			"		***Z6***
a,a,a-TFT			*105%*		*50 - 150 %*	"			"		
Toluene-d8			*101%*		*75 - 125 %*	"			"		
4-BFB			*74.6%*		*75 - 125 %*	"			"		***ZX***
ASG0075-02RE1 (PZ-2-16-18'')		**Soil**				**Sampled: 07/29/09 15:15**					**RL7**
Gasoline Range Organics	EPA 8260B	**255**	-----	66.6	mg/kg dry	15x	9080011	08/05/09 11:00	08/06/09 15:42	ds	
Surrogate(s): *Dibromofluoromethane*			*87.8%*		*75 - 125 %*	"			"		
a,a,a-TFT			*113%*		*50 - 150 %*	"			"		
Toluene-d8			*95.9%*		*75 - 125 %*	"			"		
4-BFB			*101%*		*75 - 125 %*	"			"		

TestAmerica Anchorage



Johanna L Dreher, Client Services Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/14/09 16:35

Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASG0075-01 (PZ-1-10-12'')		**Soil**				**Sampled: 07/29/09 12:30**					
Dry Weight	TA-SOP	**79.2**	-----	1.00	%	1x	9080009	08/04/09 10:04	08/05/09 09:05	JN	
ASG0075-02 (PZ-2-16-18'')		**Soil**				**Sampled: 07/29/09 15:15**					
Dry Weight	TA-SOP	**85.5**	-----	1.00	%	1x	9080009	08/04/09 10:04	08/05/09 09:05	JN	

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080008 **Soil Preparation Method: EPA 3545**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080008-BLK1)							**Extracted: 08/04/09 08:05**							
Diesel Range Organics	AK102/103	ND	---	20.0	mg/kg wet	1x	--	--	--	--	--	--	08/04/09 19:41	
Residual Range Organics	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 89.6%*			*Limits: 50-150%*	"							*08/04/09 19:41*	
Triacontane		*86.6%*			*50-150%*	"							"	
LCS (9080008-BS1)							**Extracted: 08/04/09 08:05**							
Diesel Range Organics	AK102/103	115	---	20.0	mg/kg wet	1x	--	132	86.8%	(75-125)	--	--	08/04/09 20:13	
Residual Range Organics	"	129	---	50.0	"	"	--	128	101%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 93.9%*			*Limits: 60-120%*	"							*08/04/09 20:13*	
Triacontane		*87.1%*			*60-120%*	"							"	
LCS Dup (9080008-BSD1)							**Extracted: 08/04/09 08:05**							
Diesel Range Organics	AK102/103	114	---	20.0	mg/kg wet	1x	--	132	85.9%	(75-125)	1.03%	(20)	08/04/09 20:45	
Residual Range Organics	"	127	---	50.0	"	"	--	128	99.7%	(60-120)	1.65%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 93.6%*			*Limits: 60-120%*	"							*08/04/09 20:45*	
Triacontane		*86.0%*			*60-120%*	"							"	
Duplicate (9080008-DUP1)							**QC Source: ASG0070-02**						**Extracted: 08/04/09 08:05**	
Diesel Range Organics	AK102/103	ND	---	24.0	mg/kg dry	1x	ND	--	--	--	2.80%	(20)	08/04/09 19:41	
Residual Range Organics	"	ND	---	59.9	"	"	ND	--	--	--	25.8%	(50)	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 98.2%*			*Limits: 50-150%*	"							*08/04/09 19:41*	
Triacontane		*85.5%*			*50-150%*	"							"	
Matrix Spike (9080008-MS1)							**QC Source: ASG0070-02**						**Extracted: 08/04/09 08:05**	
Diesel Range Organics	AK102/103	152	---	22.8	mg/kg dry	1x	6.31	151	96.2%	(75-125)	--	--	08/04/09 20:45	
Residual Range Organics	"	180	---	57.0	"	"	17.1	145	112%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 96.4%*			*Limits: 50-150%*	"							*08/04/09 20:45*	
Triacontane		*105%*			*50-150%*	"							"	
Matrix Spike Dup (9080008-MSD1)							**QC Source: ASG0070-02**						**Extracted: 08/04/09 08:05**	
Diesel Range Organics	AK102/103	163	---	23.9	mg/kg dry	1x	6.31	159	98.9%	(75-125)	7.30%	(25)	08/04/09 21:17	
Residual Range Organics	"	189	---	59.9	"	"	17.1	153	113%	(60-120)	5.25%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 94.1%*			*Limits: 50-150%*	"							*08/04/09 21:17*	
Triacontane		*117%*			*50-150%*	"							"	

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Johanna Dreher

Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/14/09 16:35

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080004 **Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080004-BLK1)							**Extracted: 08/03/09 08:55**							
Gasoline Range Organics	EPA 8260B	ND	---	3.33	mg/kg wet	1x	--	--	--	--	--	--	08/03/09 17:18	
Benzene	"	ND	---	0.0133	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 81.4%*			*Limits: 75-125%*	"							*08/03/09 17:18*	
a,a,a-TFT		*101%*			*50-150%*	"							"	
Toluene-d8		*97.2%*			*75-125%*	"							"	
4-BFB		*104%*			*75-125%*	"							"	
LCS (9080004-BS1)							**Extracted: 08/03/09 08:55**							
Benzene	EPA 8260B	0.795	---	0.0133	mg/kg wet	1x	--	0.800	99.3%	(70-130)	--	--	08/03/09 14:24	
Toluene	"	0.788	---	0.0333	"	"	--	"	98.5%	"	--	--	"	
Ethylbenzene	"	0.765	---	0.0333	"	"	--	"	95.6%	"	--	--	"	
Xylenes (total)	"	2.25	---	0.0500	"	"	--	2.40	93.8%	"	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 85.2%*			*Limits: 75-125%*	"							*08/03/09 14:24*	
a,a,a-TFT		*110%*			*50-150%*	"							"	
Toluene-d8		*94.3%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	
LCS (9080004-BS2)							**Extracted: 08/03/09 08:55**							
Gasoline Range Organics	EPA 8260B	20.1	---	3.33	mg/kg wet	1x	--	22.0	91.6%	(60-120)	--	--	08/03/09 15:34	
Surrogate(s): Dibromofluoromethane		*Recovery: 83.6%*			*Limits: 75-125%*	"							*08/03/09 15:34*	
a,a,a-TFT		*106%*			*50-150%*	"							"	
Toluene-d8		*96.0%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	
LCS Dup (9080004-BSD1)							**Extracted: 08/03/09 08:55**							
Benzene	EPA 8260B	0.778	---	0.0133	mg/kg wet	1x	--	0.800	97.2%	(70-130)	2.12%	(20)	08/03/09 14:59	
Toluene	"	0.765	---	0.0333	"	"	--	"	95.6%	"	2.96%	"	"	
Ethylbenzene	"	0.764	---	0.0333	"	"	--	"	95.5%	"	0.0871%	"	"	
Xylenes (total)	"	2.24	---	0.0500	"	"	--	2.40	93.4%	"	0.460%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 85.4%*			*Limits: 75-125%*	"							*08/03/09 14:59*	
a,a,a-TFT		*106%*			*50-150%*	"							"	
Toluene-d8		*94.6%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/14/09 16:35

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080004 **Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (9080004-BSD2)								**Extracted: 08/03/09 08:55**						
Gasoline Range Organics	EPA 8260B	20.3	---	3.33	mg/kg wet	1x	--	22.0	92.4%	(60-120)	0.890%	(20)	08/03/09 16:09	
Surrogate(s): Dibromofluoromethane		*Recovery: 81.8%*			*Limits: 75-125%*	"							*08/03/09 16:09*	
a,a,a-TFT		*107%*			*50-150%*	"							"	
Toluene-d8		*95.0%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	
Duplicate (9080004-DUP1)					**QC Source: ASG0068-56**			**Extracted: 08/03/09 08:55**						
Gasoline Range Organics	EPA 8260B	ND	---	2.80	mg/kg dry	2.25x	ND	--	--	--	6.91%	(35)	08/04/09 11:11	
Surrogate(s): Dibromofluoromethane		*Recovery: 79.6%*			*Limits: 75-125%*	"							*08/04/09 11:11*	
a,a,a-TFT		*100%*			*50-150%*	"							"	
Toluene-d8		*94.8%*			*75-125%*	"							"	
4-BFB		*101%*			*75-125%*	"							"	
Matrix Spike (9080004-MS1)					**QC Source: ASG0068-56**			**Extracted: 08/03/09 08:55**						
Benzene	EPA 8260B	0.575	---	0.0112	mg/kg dry	2.25x	ND	0.509	113%	(60-140)	--	--	08/04/09 11:45	
Toluene	"	0.545	---	0.0280	"	"	ND	"	107%	"	--	--	"	
Ethylbenzene	"	0.540	---	0.0280	"	"	ND	"	106%	"	--	--	"	
Xylenes (total)	"	1.57	---	0.0420	"	"	0.0157	1.53	102%	"	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 81.6%*			*Limits: 75-125%*	"							*08/04/09 11:45*	
a,a,a-TFT		*104%*			*50-150%*	"							"	
Toluene-d8		*96.0%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	
Matrix Spike Dup (9080004-MSD1)					**QC Source: ASG0068-56**			**Extracted: 08/03/09 08:55**						
Benzene	EPA 8260B	0.578	---	0.0112	mg/kg dry	2.25x	ND	0.509	114%	(60-140)	0.582%	(25)	08/04/09 12:19	
Toluene	"	0.548	---	0.0280	"	"	ND	"	108%	"	0.563%	"	"	
Ethylbenzene	"	0.540	---	0.0280	"	"	ND	"	106%	"	0.104%	"	"	
Xylenes (total)	"	1.59	---	0.0420	"	"	0.0157	1.53	103%	"	1.44%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 80.8%*			*Limits: 75-125%*	"							*08/04/09 12:19*	
a,a,a-TFT		*101%*			*50-150%*	"							"	
Toluene-d8		*96.2%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/14/09 16:35

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080011 **Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080011-BLK1)							**Extracted: 08/05/09 11:00**							
Gasoline Range Organics	EPA 8260B	ND	---	3.33	mg/kg wet	1x	--	--	--	--	--	--	08/05/09 14:44	
Benzene	"	ND	---	0.0133	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0333	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.0500	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 79.8%*			*Limits: 75-125%*	"							*08/05/09 14:44*	
a,a,a-TFT		*110%*			*50-150%*	"							"	
Toluene-d8		*95.0%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	
LCS (9080011-BS1)							**Extracted: 08/05/09 11:00**							
Benzene	EPA 8260B	0.801	---	0.0133	mg/kg wet	1x	--	0.800	100%	(70-130)	--	--	08/05/09 11:57	
Toluene	"	0.790	---	0.0333	"	"	--	"	98.7%	"	--	--	"	
Ethylbenzene	"	0.769	---	0.0333	"	"	--	"	96.2%	"	--	--	"	
Xylenes (total)	"	2.29	---	0.0500	"	"	--	2.40	95.5%	"	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 80.8%*			*Limits: 75-125%*	"							*08/05/09 11:57*	
a,a,a-TFT		*109%*			*50-150%*	"							"	
Toluene-d8		*95.2%*			*75-125%*	"							"	
4-BFB		*104%*			*75-125%*	"							"	
LCS (9080011-BS2)							**Extracted: 08/05/09 11:00**							
Gasoline Range Organics	EPA 8260B	20.2	---	3.33	mg/kg wet	1x	--	22.0	91.8%	(60-120)	--	--	08/05/09 13:03	
Surrogate(s): Dibromofluoromethane		*Recovery: 78.0%*			*Limits: 75-125%*	"							*08/05/09 13:03*	
a,a,a-TFT		*106%*			*50-150%*	"							"	
Toluene-d8		*95.2%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	
LCS Dup (9080011-BSD1)							**Extracted: 08/05/09 11:00**							
Benzene	EPA 8260B	0.807	---	0.0133	mg/kg wet	1x	--	0.800	101%	(70-130)	0.704%	(20)	08/05/09 12:30	
Toluene	"	0.793	---	0.0333	"	"	--	"	99.2%	"	0.463%	"	"	
Ethylbenzene	"	0.793	---	0.0333	"	"	--	"	99.1%	"	3.03%	"	"	
Xylenes (total)	"	2.32	---	0.0500	"	"	--	2.40	96.6%	"	1.11%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 81.3%*			*Limits: 75-125%*	"							*08/05/09 12:30*	
a,a,a-TFT		*109%*			*50-150%*	"							"	
Toluene-d8		*96.4%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/14/09 16:35

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080011 **Soil Preparation Method: AK101 Field Prep**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (9080011-BSD2)							**Extracted: 08/05/09 11:00**							
Gasoline Range Organics	EPA 8260B	21.5	---	3.33	mg/kg wet	1x	--	22.0	97.8%	(60-120)	6.29%	(20)	08/05/09 13:36	
Surrogate(s): Dibromofluoromethane		*Recovery: 80.8%*			*Limits: 75-125%*	"							*08/05/09 13:36*	
a,a,a-TFT		*110%*			*50-150%*	"							"	
Toluene-d8		*95.4%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	
Duplicate (9080011-DUP1)					**QC Source: ASH0028-06**		**Extracted: 08/05/09 11:00**							
Gasoline Range Organics	EPA 8260B	ND	---	2.70	mg/kg dry	1x	ND	--	--	--	29.4%	(35)	08/05/09 18:38	
Surrogate(s): Dibromofluoromethane		*Recovery: 75.7%*			*Limits: 75-125%*	"							*08/05/09 18:38*	
a,a,a-TFT		*108%*			*50-150%*	"							"	
Toluene-d8		*96.8%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	
Matrix Spike (9080011-MS1)					**QC Source: ASH0028-06**		**Extracted: 08/05/09 11:00**							
Benzene	EPA 8260B	0.524	---	0.0108	mg/kg dry	1x	ND	0.499	105%	(60-140)	--	--	08/05/09 19:12	
Toluene	"	0.512	---	0.0270	"	"	ND	"	103%	"	--	--	"	
Ethylbenzene	"	0.509	---	0.0270	"	"	ND	"	102%	"	--	--	"	
Xylenes (total)	"	1.50	---	0.0405	"	"	0.0138	1.50	99.3%	"	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 80.5%*			*Limits: 75-125%*	"							*08/05/09 19:12*	
a,a,a-TFT		*108%*			*50-150%*	"							"	
Toluene-d8		*95.0%*			*75-125%*	"							"	
4-BFB		*102%*			*75-125%*	"							"	
Matrix Spike Dup (9080011-MSD1)					**QC Source: ASH0028-06**		**Extracted: 08/05/09 11:00**							
Benzene	EPA 8260B	0.577	---	0.0108	mg/kg dry	1x	ND	0.499	116%	(60-140)	9.75%	(25)	08/05/09 19:45	
Toluene	"	0.564	---	0.0270	"	"	ND	"	113%	"	9.52%	"	"	
Ethylbenzene	"	0.563	---	0.0270	"	"	ND	"	113%	"	10.2%	"	"	
Xylenes (total)	"	1.66	---	0.0405	"	"	0.0138	1.50	110%	"	10.1%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 77.6%*			*Limits: 75-125%*	"							*08/05/09 19:45*	
a,a,a-TFT		*108%*			*50-150%*	"							"	
Toluene-d8		*95.1%*			*75-125%*	"							"	
4-BFB		*103%*			*75-125%*	"							"	

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Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080009 **Soil Preparation Method: *** DEFAULT PREP**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (9080009-DUP1)					**QC Source: ASG0070-02**			**Extracted: 08/04/09 10:04**						
Dry Weight	TA-SOP	80.6	---	1.00	%	1x	80.9	--	--	--	0.291%	(25)	08/05/09 09:05	

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Johanna Dreher

Johanna L Dreher, Client Services Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/14/09 16:35

Notes and Definitions

Report Specific Notes:

RL7	-	Sample required dilution due to high concentrations of target analyte.
Z6	-	Surrogate recovery was below acceptance limits.
ZX	-	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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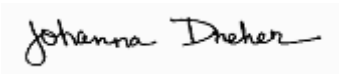

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11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: ASG0075

CLIENT: ARCADIS

REPORT TO: Greg Montgomery Ste. 200
ADDRESS: Arcadis 2100 East Lake Ave E, Seattle, wa 98102
PHONE: (206) 726-4792 FAX: (206) 325-8218

INVOICE TO: Chevron EMC

P.O. NUMBER: NWRTB-0309152-1-LAB

PROJECT NAME: Sappe
PROJECT NUMBER: ~~36~~ B0045803.
SAMPLED BY: JRB

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10] [7] [5] [4] [3] [2] [1] [<1]
Petroleum Hydrocarbon Analyses: [5 STD.] [4] [3] [2] [1] [<1]
[OTHER] Specify:

* *Turnaround Requests less than standard may incur Rush Charges.*

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PRESERVATIVE: Methanol	REQUESTED ANALYSES: AK101/GRO BTEX 8021B	AK102/DRO	AK103/RRO	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	PZ-1-10-12"	7/29/09 1230	✓	✓			S	2		01
2	PZ-2-16-18"	7/29/09 1515	✓	✓			S	2		02
3	Trip Blank	7/29/09 —	✓				O	2		
4										
5										
6										
7										
8										
9										
10										

RELEASED BY:		DATE: 7/30/09	RECEIVED BY:		DATE: 07/31/09
PRINT NAME: Russell Brecht	FIRM: ARCADIS	TIME: 830	PRINT NAME: Anastasia Gumulia	FIRM: Anchorage	TIME: 09 00
RELEASED BY:		DATE:	RECEIVED BY:		DATE:
PRINT NAME:	FIRM:	TIME:	PRINT NAME:	FIRM:	TIME:

ADDITIONAL REMARKS:

TEMP: 4.6

PAGE 1 OF 1

TAL-1000(0408)

Test America Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # ASG0075 CLIENT: Arcadis PROJECT: Saupe

Date /Time Cooler Arrived 07 / 31 / 09 09 : 00 Cooler signed for by: Troy Engstrom (Print name)

Preliminary Examination Phase:

Date cooler opened: ☑ same as date received *or* ___/___/___

Cooler opened by (print) Anastasia Gumulia (sign) [signature]

1. Delivered by ☐ ALASKA AIRLINES ☑ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other: ___

   Shipment Tracking # if applicable 8688 9244 4906 (include copy of shipping papers in file)

2. Number of Custody Seals 1 Signed by See back Date 07 / 30 / 09

   Were custody seals unbroken and intact on arrival? ☑ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☑ Yes ☐ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☑ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☑ Yes ☐ No

6. Was ice used? ☑ Yes ☐ No Type of ice: ☐ blue ice ☐ gel ice ☑ real ice ☐ dry ice Condition of Ice: melting

   Temperature by Digi-Thermo Probe 4.6 °C Thermometer # Rea #5
   Acceptance Criteria: 0 - 6°C

7. Packing in Cooler: ☑ bubble wrap ☐ styrofoam ☐ cardboard ☐ Other: ___

8. Did samples arrive in plastic bags? ☐ Yes ☑ No

9. Did all bottles arrive unbroken, and with labels in good condition? ☑ Yes ☐ No

10. Are all bottle labels complete (ID, date, time, etc.) ☑ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☑ Yes ☐ No Trip Blank can not be analyzed because of incorrect matrix.

12. Are the containers and preservatives correct for the tests indicated? ☐ Yes ☑ No

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2? ☐ Yes ☐ No ☑ N/A

14. Is there adequate volume for the tests requested? ☑ Yes ☐ No

15. Were VOA vials free of bubbles? ☑ N/A ☐ Yes ☐ No

    If "NO" which containers contained "head space" or bubbles? ___

Log-in Phase:

Date of sample log-in 07 / 31 / 09

Samples logged in by (print) Anastasia Gumulia (sign) [signature]

1. Was project identifiable from custody papers? ☑ Yes ☐ No
2. Do Turn Around Times and Due Dates agree? ☑ Yes ☐ No
3. Was the Project Manager notified of status? ☑ Yes ☐ No
4. Was the Lab notified of status? ☑ Yes ☐ No
5. Was the COC scanned and copied? ☑ Yes ☐ No

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462593

Custody Seal

7/30/09
DATE

SIGNATURE

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462593

AG0074

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THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

August 20, 2009

Greg Montgomery
Arcadis - Seattle
2300 East Lake Ave East Suite 100
Seattle, WA 98102

RE: Saupe #309152

Enclosed are the results of analyses for samples received by the laboratory on 08/06/09 09:30. The following list is a summary of the Work Orders contained in this report, generated on 08/20/09 16:16.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
ASH0036	Saupe #309152	B0045803

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PZ-1	ASH0036-01	Water	08/03/09 10:45	08/06/09 09:30
PZ-2	ASH0036-02	Water	08/03/09 11:00	08/06/09 09:30
DUP-1	ASH0036-03	Water	08/03/09 00:00	08/06/09 09:30
Trip Blank	ASH0036-04	Water	08/03/09 00:00	08/06/09 09:30

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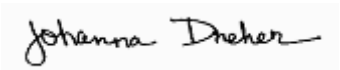

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01 (PZ-1)			**Water**				**Sampled: 08/03/09 10:45**				
Diesel Range Organics	AK102/103	**9.97**	-----	0.391	mg/l	1x	9080046	08/13/09 12:54	08/14/09 21:32	JN	
Residual Range Organics	"	**1.32**	-----	0.391	"	"	"	"	"	JN	
Surrogate(s): 1-Chlorooctadecane			*99.8%*		*50 - 150 %*	"				"	
Triacontane			*114%*		*50 - 150 %*	"				"	
ASH0036-02 (PZ-2)			**Water**				**Sampled: 08/03/09 11:00**				
Diesel Range Organics	AK102/103	**9.93**	-----	0.391	mg/l	1x	9080046	08/13/09 12:54	08/14/09 21:32	JN	
Residual Range Organics	"	**0.807**	-----	0.391	"	"	"	"	"	JN	
Surrogate(s): 1-Chlorooctadecane			*102%*		*50 - 150 %*	"				"	
Triacontane			*98.0%*		*50 - 150 %*	"				"	
ASH0036-03 (DUP-1)			**Water**				**Sampled: 08/03/09 00:00**				
Diesel Range Organics	AK102/103	**11.2**	-----	0.391	mg/l	1x	9080046	08/13/09 12:54	08/14/09 23:39	JN	
Residual Range Organics	"	**1.15**	-----	0.391	"	"	"	"	"	JN	
Surrogate(s): 1-Chlorooctadecane			*101%*		*50 - 150 %*	"				"	
Triacontane			*115%*		*50 - 150 %*	"				"	

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01 (PZ-1)			**Water**				**Sampled: 08/03/09 10:45**				
Gasoline Range Organics	EPA 8260B	**2540**	-----	50.0	ug/l	1x	9080023	08/07/09 05:56	08/08/09 05:24	kc	
Toluene	"	**5.30**	-----	1.00	"	"	"	"	"	kc	
Ethylbenzene	"	**27.7**	-----	1.00	"	"	"	"	"	kc	
Surrogate(s): *4-BFB*			*102%*		*85 - 115 %*	"			"		
Dibromofluoromethane			*87.6%*		*81 - 124 %*	"			"		
Toluene-d8			*92.7%*		*83 - 115 %*	"			"		
ASH0036-01RE1 (PZ-1)			**Water**				**Sampled: 08/03/09 10:45**				
Benzene	EPA 8260B	**214**	-----	5.00	ug/l	10x	9080051	08/14/09 11:26	08/14/09 16:58	kc	**RL7**
Xylenes (total)	"	**717**	-----	30.0	"	"	"	"	"	kc	**RL7**
Surrogate(s): *4-BFB*			*108%*		*85 - 115 %*	"			"		***RL7***
Dibromofluoromethane			*75.9%*		*81 - 124 %*	"			"		***Z6, RL7***
Toluene-d8			*90.6%*		*83 - 115 %*	"			"		***RL7***
ASH0036-02 (PZ-2)			**Water**				**Sampled: 08/03/09 11:00**				
Gasoline Range Organics	EPA 8260B	**2410**	-----	50.0	ug/l	1x	9080023	08/07/09 05:56	08/08/09 04:54	kc	
Toluene	"	**3.42**	-----	1.00	"	"	"	"	"	kc	
Ethylbenzene	"	**43.2**	-----	1.00	"	"	"	"	"	kc	
Xylenes (total)	"	**260**	-----	3.00	"	"	"	"	"	kc	
Surrogate(s): *4-BFB*			*101%*		*85 - 115 %*	"			"		
Dibromofluoromethane			*87.8%*		*81 - 124 %*	"			"		
Toluene-d8			*94.4%*		*83 - 115 %*	"			"		
ASH0036-02RE1 (PZ-2)			**Water**				**Sampled: 08/03/09 11:00**				
Benzene	EPA 8260B	**186**	-----	5.00	ug/l	10x	9080051	08/14/09 11:26	08/14/09 17:27	kc	**RL7**
Surrogate(s): *4-BFB*			*106%*		*85 - 115 %*	"			"		***RL7***
Dibromofluoromethane			*75.4%*		*81 - 124 %*	"			"		***Z6, RL7***
Toluene-d8			*89.6%*		*83 - 115 %*	"			"		***RL7***
ASH0036-03 (DUP-1)			**Water**				**Sampled: 08/03/09 00:00**				
Gasoline Range Organics	EPA 8260B	**3330**	-----	50.0	ug/l	1x	9080023	08/07/09 05:56	08/08/09 05:53	kc	
Toluene	"	**5.26**	-----	1.00	"	"	"	"	"	kc	
Ethylbenzene	"	**63.6**	-----	1.00	"	"	"	"	"	kc	
Surrogate(s): *4-BFB*			*104%*		*85 - 115 %*	"			"		
Dibromofluoromethane			*88.0%*		*81 - 124 %*	"			"		
Toluene-d8			*93.2%*		*83 - 115 %*	"			"		

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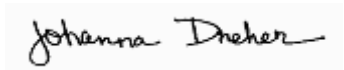
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-03RE1 (DUP-1)		**Water**				**Sampled: 08/03/09 00:00**					
Benzene	EPA 8260B	**217**	-----	5.00	ug/l	10x	9080051	08/14/09 11:26	08/14/09 17:57	kc	**RL7**
Xylenes (total)	"	**797**	-----	30.0	"	"	"	"	"	kc	**RL7**
Surrogate(s): 4-BFB			*103%*		*85 - 115 %*	"				"	***RL7***
Dibromofluoromethane			*72.4%*		*81 - 124 %*	"				"	***Z6, RL7***
Toluene-d8			*91.4%*		*83 - 115 %*	"				"	***RL7***
ASH0036-04 (Trip Blank)		**Water**				**Sampled: 08/03/09 00:00**					
Gasoline Range Organics	EPA 8260B	ND	-----	50.0	ug/l	1x	9080023	08/07/09 05:56	08/07/09 17:34	kc	
Benzene	"	ND	-----	0.500	"	"	"	"	"	kc	
Toluene	"	ND	-----	1.00	"	"	"	"	"	kc	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	kc	
Xylenes (total)	"	ND	-----	3.00	"	"	"	"	"	kc	
Surrogate(s): 4-BFB			*104%*		*85 - 115 %*	"				"	
Dibromofluoromethane			*97.7%*		*81 - 124 %*	"				"	
Toluene-d8			*91.6%*		*83 - 115 %*	"				"	

TestAmerica Anchorage



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2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01 (PZ-1)		**Water**				**Sampled: 08/03/09 10:45**					**RL7**
Acetone	EPA 8260B	ND	-----	500	ug/l	20x	9080462	08/13/09 09:05	08/13/09 17:21	TDB	
Benzene	"	**232**	-----	20.0	"	"	"	"	"	TDB	
Bromobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromodichloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromoform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromomethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Butanone (MEK)	"	ND	-----	200	"	"	"	"	"	TDB	
n-Butylbenzene	"	ND	-----	100	"	"	"	"	"	TDB	
sec-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
tert-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Carbon disulfide	"	ND	-----	200	"	"	"	"	"	TDB	
Carbon tetrachloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloromethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
4-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromo-3-chloropropane	"	ND	-----	100	"	"	"	"	"	TDB	
Dibromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromoethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dibromomethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,4-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dichlorodifluoromethane	"	ND	-----	100	"	"	"	"	"	TDB	
1,1-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
trans-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
2,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,3-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01 (PZ-1)		**Water**				**Sampled: 08/03/09 10:45**					**RL7**
trans-1,3-Dichloropropene	EPA 8260B	ND	-----	20.0	ug/l	20x	9080462	08/13/09 09:05	08/13/09 17:21	TDB	
Ethylbenzene	"	**28.0**	-----	20.0	"	"	"	"	"	TDB	
Hexachlorobutadiene	"	ND	-----	80.0	"	"	"	"	"	TDB	
2-Hexanone	"	ND	-----	200	"	"	"	"	"	TDB	
Isopropylbenzene	"	ND	-----	40.0	"	"	"	"	"	TDB	
p-Isopropyltoluene	"	ND	-----	40.0	"	"	"	"	"	TDB	
4-Methyl-2-pentanone	"	ND	-----	100	"	"	"	"	"	TDB	
Methyl tert-butyl ether	"	ND	-----	20.0	"	"	"	"	"	TDB	
Methylene chloride	"	ND	-----	100	"	"	"	"	"	TDB	
Naphthalene	"	ND	-----	40.0	"	"	"	"	"	TDB	
n-Propylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Styrene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Tetrachloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Toluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichlorofluoromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trimethylbenzene	"	**52.6**	-----	20.0	"	"	"	"	"	TDB	
1,3,5-Trimethylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Vinyl chloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
o-Xylene	"	**131**	-----	20.0	"	"	"	"	"	TDB	
m,p-Xylene	"	**647**	-----	40.0	"	"	"	"	"	TDB	

Surrogate(s):	*Dibromofluoromethane*	*94.2%*	*80 - 120 %*	*1x*	"
	1,2-DCA-d4	*95.4%*	*80 - 120 %*	"	"
	Toluene-d8	*97.0%*	*80 - 120 %*	"	"
	4-BFB	*103%*	*80 - 120 %*	"	"

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-02 (PZ-2)		**Water**				**Sampled: 08/03/09 11:00**					**RL7**
Acetone	EPA 8260B	ND	-----	500	ug/l	20x	9080462	08/13/09 09:05	08/13/09 17:45	TDB	
Benzene	"	**270**	-----	20.0	"	"	"	"	"	TDB	
Bromobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromodichloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromoform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromomethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Butanone (MEK)	"	ND	-----	200	"	"	"	"	"	TDB	
n-Butylbenzene	"	ND	-----	100	"	"	"	"	"	TDB	
sec-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
tert-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Carbon disulfide	"	ND	-----	200	"	"	"	"	"	TDB	
Carbon tetrachloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloromethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
4-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromo-3-chloropropane	"	ND	-----	100	"	"	"	"	"	TDB	
Dibromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromoethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dibromomethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,4-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dichlorodifluoromethane	"	ND	-----	100	"	"	"	"	"	TDB	
1,1-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
trans-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
2,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,3-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-02 (PZ-2)		**Water**				**Sampled: 08/03/09 11:00**					**RL7**
trans-1,3-Dichloropropene	EPA 8260B	ND	-----	20.0	ug/l	20x	9080462	08/13/09 09:05	08/13/09 17:45	TDB	
Ethylbenzene	"	**64.4**	-----	20.0	"	"	"	"	"	TDB	
Hexachlorobutadiene	"	ND	-----	80.0	"	"	"	"	"	TDB	
2-Hexanone	"	ND	-----	200	"	"	"	"	"	TDB	
Isopropylbenzene	"	ND	-----	40.0	"	"	"	"	"	TDB	
p-Isopropyltoluene	"	ND	-----	40.0	"	"	"	"	"	TDB	
4-Methyl-2-pentanone	"	ND	-----	100	"	"	"	"	"	TDB	
Methyl tert-butyl ether	"	ND	-----	20.0	"	"	"	"	"	TDB	
Methylene chloride	"	ND	-----	100	"	"	"	"	"	TDB	
Naphthalene	"	**128**	-----	40.0	"	"	"	"	"	TDB	
n-Propylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Styrene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Tetrachloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Toluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichlorofluoromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trimethylbenzene	"	**153**	-----	20.0	"	"	"	"	"	TDB	
1,3,5-Trimethylbenzene	"	**50.6**	-----	20.0	"	"	"	"	"	TDB	
Vinyl chloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
o-Xylene	"	**103**	-----	20.0	"	"	"	"	"	TDB	
m,p-Xylene	"	**578**	-----	40.0	"	"	"	"	"	TDB	

Surrogate(s):	*Dibromofluoromethane*	*92.8%*	*80 - 120 %*	*1x*	*"*
	1,2-DCA-d4	*96.0%*	*80 - 120 %*	*"*	*"*
	Toluene-d8	*96.2%*	*80 - 120 %*	*"*	*"*
	4-BFB	*106%*	*80 - 120 %*	*"*	*"*

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-03 (DUP-1)		**Water**				**Sampled: 08/03/09 00:00**					**RL7**
Acetone	EPA 8260B	ND	-----	500	ug/l	20x	9080462	08/13/09 09:05	08/13/09 18:08	TDB	
Benzene	"	**283**	-----	20.0	"	"	"	"	"	TDB	
Bromobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromodichloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromoform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Bromomethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Butanone (MEK)	"	ND	-----	200	"	"	"	"	"	TDB	
n-Butylbenzene	"	ND	-----	100	"	"	"	"	"	TDB	
sec-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
tert-Butylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Carbon disulfide	"	ND	-----	200	"	"	"	"	"	TDB	
Carbon tetrachloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloroform	"	ND	-----	20.0	"	"	"	"	"	TDB	
Chloromethane	"	ND	-----	100	"	"	"	"	"	TDB	
2-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
4-Chlorotoluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromo-3-chloropropane	"	ND	-----	100	"	"	"	"	"	TDB	
Dibromochloromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dibromoethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dibromomethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,4-Dichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Dichlorodifluoromethane	"	ND	-----	100	"	"	"	"	"	TDB	
1,1-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
trans-1,2-Dichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,3-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
2,2-Dichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	
cis-1,3-Dichloropropene	"	ND	-----	20.0	"	"	"	"	"	TDB	

TestAmerica Anchorage

Johanna Dreher

Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

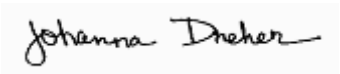
Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-03 (DUP-1)		**Water**				**Sampled: 08/03/09 00:00**					**RL7**
trans-1,3-Dichloropropene	EPA 8260B	ND	-----	20.0	ug/l	20x	9080462	08/13/09 09:05	08/13/09 18:08	TDB	
Ethylbenzene	"	**62.4**	-----	20.0	"	"	"	"	"	TDB	
Hexachlorobutadiene	"	ND	-----	80.0	"	"	"	"	"	TDB	
2-Hexanone	"	ND	-----	200	"	"	"	"	"	TDB	
Isopropylbenzene	"	ND	-----	40.0	"	"	"	"	"	TDB	
p-Isopropyltoluene	"	ND	-----	40.0	"	"	"	"	"	TDB	
4-Methyl-2-pentanone	"	ND	-----	100	"	"	"	"	"	TDB	
Methyl tert-butyl ether	"	ND	-----	20.0	"	"	"	"	"	TDB	
Methylene chloride	"	ND	-----	100	"	"	"	"	"	TDB	
Naphthalene	"	**130**	-----	40.0	"	"	"	"	"	TDB	
n-Propylbenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Styrene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2,2-Tetrachloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Tetrachloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Toluene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trichlorobenzene	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,1-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,1,2-Trichloroethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichloroethene	"	ND	-----	20.0	"	"	"	"	"	TDB	
Trichlorofluoromethane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,3-Trichloropropane	"	ND	-----	20.0	"	"	"	"	"	TDB	
1,2,4-Trimethylbenzene	"	**143**	-----	20.0	"	"	"	"	"	TDB	
1,3,5-Trimethylbenzene	"	**48.8**	-----	20.0	"	"	"	"	"	TDB	
Vinyl chloride	"	ND	-----	20.0	"	"	"	"	"	TDB	
o-Xylene	"	**96.0**	-----	20.0	"	"	"	"	"	TDB	
m,p-Xylene	"	**566**	-----	40.0	"	"	"	"	"	TDB	

Surrogate(s):	*Dibromofluoromethane*	*93.4%*	*80 - 120 %*	*1x*	"
	1,2-DCA-d4	*95.2%*	*80 - 120 %*	"	"
	Toluene-d8	*95.8%*	*80 - 120 %*	"	"
	4-BFB	*104%*	*80 - 120 %*	"	"

TestAmerica Anchorage



Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01 (PZ-1)		**Water**				**Sampled: 08/03/09 10:45**					
Acenaphthene	EPA 8270m	ND	-----	0.777	ug/l	4x	9080290	08/10/09 10:30	08/17/09 13:02	NAF	**RL1**
Acenaphthylene	"	ND	-----	0.388	"	"	"	"	"	NAF	**RL1**
Anthracene	"	ND	-----	0.0971	"	1x	"	"	08/13/09 14:24	NAF	
Benzo (a) anthracene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Benzo (a) pyrene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Benzo (b) fluoranthene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Benzo (ghi) perylene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Benzo (k) fluoranthene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Chrysene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Dibenzo (a,h) anthracene	"	ND	-----	0.194	"	"	"	"	"	NAF	
Fluoranthene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Fluorene	"	ND	-----	0.388	"	4x	"	"	08/17/09 13:02	NAF	**RL1**
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0971	"	1x	"	"	08/13/09 14:24	NAF	
Naphthalene	"	**4.21**	-----	0.0971	"	"	"	"	"	NAF	
Phenanthrene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Pyrene	"	ND	-----	0.0971	"	"	"	"	"	NAF	
Surrogate(s): *Fluorene-d10*		*77.1%*		*25 - 125 %*		*4x*			*08/17/09 13:02*		
Pyrene-d10		*79.3%*		*23 - 150 %*		*1x*			*08/13/09 14:24*		
Benzo (a) pyrene-d12		*41.5%*		*10 - 125 %*		*"*			*"*		
ASH0036-02 (PZ-2)		**Water**				**Sampled: 08/03/09 11:00**					
Acenaphthene	EPA 8270m	ND	-----	1.47	ug/l	10x	9080290	08/10/09 10:30	08/17/09 13:32	NAF	**RL1**
Acenaphthylene	"	ND	-----	0.980	"	"	"	"	"	NAF	**RL1**
Anthracene	"	ND	-----	0.0980	"	1x	"	"	08/13/09 16:28	NAF	
Benzo (a) anthracene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Benzo (a) pyrene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Benzo (b) fluoranthene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Benzo (ghi) perylene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Benzo (k) fluoranthene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Chrysene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Dibenzo (a,h) anthracene	"	ND	-----	0.196	"	"	"	"	"	NAF	
Fluoranthene	"	ND	-----	0.0980	"	"	"	"	"	NAF	
Fluorene	"	ND	-----	0.980	"	10x	"	"	08/17/09 13:32	NAF	**RL1**
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0980	"	1x	"	"	08/13/09 16:28	NAF	
Naphthalene	"	**75.3**	-----	0.980	"	10x	"	"	08/17/09 13:32	NAF	
Phenanthrene	"	ND	-----	0.0980	"	1x	"	"	08/13/09 16:28	NAF	
Pyrene	"	ND	-----	0.0980	"	"	"	"	"	NAF	

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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-02 (PZ-2)		**Water**				**Sampled: 08/03/09 11:00**					
Surrogate(s): Fluorene-d10		*74.2%*			*25 - 125 %*	*10x*			*08/17/09 13:32*		
Pyrene-d10		*86.6%*			*23 - 150 %*	*1x*			*08/13/09 16:28*		
Benzo (a) pyrene-d12		*53.1%*			*10 - 125 %*	*"*			*"*		
ASH0036-03 (DUP-1)		**Water**				**Sampled: 08/03/09 00:00**					
Acenaphthene	EPA 8270m	ND	-----	1.44	ug/l	10x	9080290	08/10/09 10:30	08/17/09 14:03	NAF	**RL1**
Acenaphthylene	"	ND	-----	0.962	"	"	"	"	"	NAF	**RL1**
Anthracene	"	ND	-----	0.0962	"	1x	"	"	08/13/09 16:58	NAF	
Benzo (a) anthracene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Benzo (a) pyrene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Benzo (b) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Benzo (ghi) perylene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Benzo (k) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Chrysene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Dibenzo (a,h) anthracene	"	ND	-----	0.192	"	"	"	"	"	NAF	
Fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Fluorene	"	ND	-----	0.962	"	10x	"	"	08/17/09 14:03	NAF	**RL1**
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0962	"	1x	"	"	08/13/09 16:58	NAF	
Naphthalene	"	**54.8**	-----	0.962	"	10x	"	"	08/17/09 14:03	NAF	
Phenanthrene	"	ND	-----	0.0962	"	1x	"	"	08/13/09 16:58	NAF	
Pyrene	"	ND	-----	0.0962	"	"	"	"	"	NAF	
Surrogate(s): Fluorene-d10		*74.3%*			*25 - 125 %*	*10x*			*08/17/09 14:03*		
Pyrene-d10		*77.4%*			*23 - 150 %*	*1x*			*08/13/09 16:58*		
Benzo (a) pyrene-d12		*59.9%*			*10 - 125 %*	*"*			*"*		

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

EDB, DBCP and TCP in Drinking Water per EPA 504.1

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASH0036-01RE1 (PZ-1)		**Water**				**Sampled: 08/03/09 10:45**					
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	ND	-----	0.000200	mg/l	1x	9080561	08/17/09 16:00	08/17/09 21:44	MG	
1,2-Dibromoethane (EDB)	"	ND	-----	0.000100	"	"	"	"	"	MG	
1,2,3-Trichloropropane (TCP)	"	ND	-----	0.000200	"	"	"	"	"	MG	
ASH0036-02RE1 (PZ-2)		**Water**				**Sampled: 08/03/09 11:00**					
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	ND	-----	0.000200	mg/l	1x	9080561	08/17/09 16:00	08/17/09 22:11	MG	
1,2-Dibromoethane (EDB)	"	ND	-----	0.000100	"	"	"	"	"	MG	
1,2,3-Trichloropropane (TCP)	"	ND	-----	0.000200	"	"	"	"	"	MG	
ASH0036-03RE1 (DUP-1)		**Water**				**Sampled: 08/03/09 00:00**					
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	ND	-----	0.000200	mg/l	1x	9080561	08/17/09 16:00	08/17/09 22:38	MG	
1,2-Dibromoethane (EDB)	"	ND	-----	0.000100	"	"	"	"	"	MG	
1,2,3-Trichloropropane (TCP)	"	ND	-----	0.000200	"	"	"	"	"	MG	

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results

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QC Batch: 9080046 **Water Preparation Method: EPA 3510**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080046-BLK1)								**Extracted: 08/13/09 12:54**						
Diesel Range Organics	AK102/103	ND	---	0.500	mg/l	1x	--	--	--	--	--	--	08/14/09 16:50	
Residual Range Organics	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 109%*			*Limits: 50-150%*	"							*08/14/09 16:50*	
Triacontane		*115%*			*50-150%*	"							"	
LCS (9080046-BS1)								**Extracted: 08/13/09 12:54**						
Diesel Range Organics	AK102/103	9.77	---	0.500	mg/l	1x	--	10.6	92.1%	(75-125)	--	--	08/14/09 16:50	
Residual Range Organics	"	10.5	---	0.500	"	"	--	10.2	103%	(60-120)	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 103%*			*Limits: 60-120%*	"							*08/14/09 16:50*	
Triacontane		*91.5%*			*60-120%*	"							"	
LCS Dup (9080046-BSD1)								**Extracted: 08/13/09 12:54**						
Diesel Range Organics	AK102/103	9.94	---	0.500	mg/l	1x	--	10.6	93.8%	(75-125)	1.75%	(20)	08/14/09 17:21	
Residual Range Organics	"	10.8	---	0.500	"	"	--	10.2	106%	(60-120)	2.77%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 104%*			*Limits: 60-120%*	"							*08/14/09 17:21*	
Triacontane		*92.6%*			*60-120%*	"							"	
Duplicate (9080046-DUP1)					**QC Source: ASH0012-01**			**Extracted: 08/13/09 12:54**						
Diesel Range Organics	AK102/103	ND	---	0.403	mg/l	1x	ND	--	--	--	18.3%	(20)	08/14/09 17:21	
Residual Range Organics	"	ND	---	0.403	"	"	ND	--	--	--	30.8%	(50)	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 105%*			*Limits: 50-150%*	"							*08/14/09 17:21*	
Triacontane		*110%*			*50-150%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**
2300 East Lake Ave East Suite 100	Project Number:	B0045803
Seattle, WA 98102	Project Manager:	Greg Montgomery
		Report Created: 08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

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QC Batch: 9080023 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080023-BLK1)									**Extracted: 08/07/09 05:56**					
Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	08/07/09 16:05	
Benzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	3.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 101%*			*Limits: 85-115%*	"							*08/07/09 16:05*	
Dibromofluoromethane		*97.4%*			*81-124%*	"							"	
Toluene-d8		*90.2%*			*83-115%*	"							"	
LCS (9080023-BS1)									**Extracted: 08/07/09 05:56**					
Benzene	EPA 8260B	20.8	---	0.500	ug/l	1x	--	20.0	104%	(67-125)	--	--	08/07/09 15:05	
Toluene	"	20.0	---	1.00	"	"	--	"	100%	(80-120)	--	--	"	
Ethylbenzene	"	22.1	---	1.00	"	"	--	"	111%	"	--	--	"	
Xylenes (total)	"	66.9	---	3.00	"	"	--	60.0	111%	"	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 101%*			*Limits: 85-115%*	"							*08/07/09 15:05*	
Dibromofluoromethane		*98.0%*			*81-124%*	"							"	
Toluene-d8		*97.9%*			*83-115%*	"							"	
LCS (9080023-BS2)									**Extracted: 08/07/09 05:56**					
Gasoline Range Organics	EPA 8260B	635	---	50.0	ug/l	1x	--	550	115%	(60-120)	--	--	08/07/09 15:35	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 85-115%*	"							*08/07/09 15:35*	
Dibromofluoromethane		*95.1%*			*81-124%*	"							"	
Toluene-d8		*96.8%*			*83-115%*	"							"	
LCS Dup (9080023-BSD1)									**Extracted: 08/07/09 05:56**					
Benzene	EPA 8260B	20.5	---	0.500	ug/l	1x	--	20.0	102%	(67-125)	1.36%	(20)	08/08/09 02:56	
Toluene	"	19.9	---	1.00	"	"	--	"	99.5%	(80-120)	0.551%	"	"	
Ethylbenzene	"	22.6	---	1.00	"	"	--	"	113%	"	2.10%	"	"	
Xylenes (total)	"	67.1	---	3.00	"	"	--	60.0	112%	"	0.313%	"	"	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 85-115%*	"							*08/08/09 02:56*	
Dibromofluoromethane		*98.6%*			*81-124%*	"							"	
Toluene-d8		*98.4%*			*83-115%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080023 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (9080023-BSD2)							**Extracted: 08/07/09 05:56**							
Gasoline Range Organics	EPA 8260B	588	---	50.0	ug/l	1x	--	550	107%	(60-120)	7.64%	(20)	08/08/09 03:26	
Surrogate(s): 4-BFB		*Recovery: 100%*			*Limits: 85-115%*	"							*08/08/09 03:26*	
Dibromofluoromethane		*90.0%*			*81-124%*	"							"	
Toluene-d8		*95.0%*			*83-115%*	"							"	
Duplicate (9080023-DUP1)							**QC Source: ASH0031-01**						**Extracted: 08/07/09 05:56**	
Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	ND	--	--	--	NR	(12)	08/07/09 22:01	
Surrogate(s): 4-BFB		*Recovery: 105%*			*Limits: 85-115%*	"							*08/07/09 22:01*	
Dibromofluoromethane		*94.4%*			*81-124%*	"							"	
Toluene-d8		*91.0%*			*83-115%*	"							"	
Matrix Spike (9080023-MS1)							**QC Source: ASH0031-02**						**Extracted: 08/07/09 05:56**	
Benzene	EPA 8260B	20.5	---	0.500	ug/l	1x	ND	20.0	102%	(65-138)	--	--	08/07/09 23:00	
Toluene	"	20.1	---	1.00	"	"	ND	"	101%	(80-120)	--	--	"	
Ethylbenzene	"	22.2	---	1.00	"	"	ND	"	111%	(76-130)	--	--	"	
Xylenes (total)	"	66.1	---	3.00	"	"	ND	60.0	110%	(65-140)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 85-115%*	"							*08/07/09 23:00*	
Dibromofluoromethane		*96.8%*			*81-124%*	"							"	
Toluene-d8		*98.2%*			*83-115%*	"							"	
Matrix Spike Dup (9080023-MSD1)							**QC Source: ASH0031-02**						**Extracted: 08/07/09 05:56**	
Benzene	EPA 8260B	20.8	---	0.500	ug/l	1x	ND	20.0	104%	(65-138)	1.41%	(20)	08/07/09 23:30	
Toluene	"	20.1	---	1.00	"	"	ND	"	100%	(80-120)	0.199%	"	"	
Ethylbenzene	"	22.3	---	1.00	"	"	ND	"	112%	(76-130)	0.764%	"	"	
Xylenes (total)	"	66.3	---	3.00	"	"	ND	60.0	111%	(65-140)	0.347%	"	"	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 85-115%*	"							*08/07/09 23:30*	
Dibromofluoromethane		*96.6%*			*81-124%*	"							"	
Toluene-d8		*97.4%*			*83-115%*	"							"	

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Arcadis - Seattle	Project Name:	**Saupe #309152**
2300 East Lake Ave East Suite 100	Project Number:	B0045803
Seattle, WA 98102	Project Manager:	Greg Montgomery
		Report Created: 08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080051 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080051-BLK1)							**Extracted: 08/14/09 11:26**							
Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	08/14/09 15:01	
Benzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	3.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 109%*			*Limits: 85-115%*	"							*08/14/09 15:01*	
Dibromofluoromethane		*77.0%*			*81-124%*	"							"	*Z6*
Toluene-d8		*90.6%*			*83-115%*	"							"	
LCS (9080051-BS1)							**Extracted: 08/14/09 11:26**							
Benzene	EPA 8260B	20.0	---	0.500	ug/l	1x	--	20.0	100%	(67-125)	--	--	08/14/09 14:02	
Toluene	"	20.0	---	1.00	"	"	--	"	99.9%	(80-120)	--	--	"	
Ethylbenzene	"	23.1	---	1.00	"	"	--	"	115%	"	--	--	"	
Xylenes (total)	"	69.6	---	3.00	"	"	--	60.0	116%	"	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 104%*			*Limits: 85-115%*	"							*08/14/09 14:02*	
Dibromofluoromethane		*82.6%*			*81-124%*	"							"	
Toluene-d8		*94.2%*			*83-115%*	"							"	
LCS (9080051-BS2)							**Extracted: 08/14/09 11:26**							
Gasoline Range Organics	EPA 8260B	594	---	50.0	ug/l	1x	--	550	108%	(60-120)	--	--	08/14/09 14:31	
Surrogate(s): 4-BFB		*Recovery: 108%*			*Limits: 85-115%*	"							*08/14/09 14:31*	
Dibromofluoromethane		*76.9%*			*81-124%*	"							"	*Z6*
Toluene-d8		*93.0%*			*83-115%*	"							"	
LCS Dup (9080051-BSD1)							**Extracted: 08/14/09 11:26**							
Benzene	EPA 8260B	18.8	---	0.500	ug/l	1x	--	20.0	94.0%	(67-125)	6.34%	(20)	08/15/09 14:23	
Toluene	"	18.6	---	1.00	"	"	--	"	93.0%	(80-120)	7.15%	"	"	
Ethylbenzene	"	22.2	---	1.00	"	"	--	"	111%	"	4.16%	"	"	
Xylenes (total)	"	68.6	---	3.00	"	"	--	60.0	114%	"	1.46%	"	"	
Surrogate(s): 4-BFB		*Recovery: 105%*			*Limits: 85-115%*	"							*08/15/09 14:23*	
Dibromofluoromethane		*84.6%*			*81-124%*	"							"	
Toluene-d8		*91.6%*			*83-115%*	"							"	

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Johanna Dreher

Johanna L Dreher, Client Services Manager

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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/20/09 16:16

Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9080051 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (9080051-BSD2)							**Extracted: 08/14/09 11:26**							
Gasoline Range Organics	EPA 8260B	586	---	50.0	ug/l	1x	--	550	107%	(60-120)	1.39%	(20)	08/15/09 16:22	
Surrogate(s): 4-BFB		*Recovery: 108%*			*Limits: 85-115%*	"							*08/15/09 16:22*	
Dibromofluoromethane		*74.8%*			*81-124%*	"							"	*Z6*
Toluene-d8		*92.8%*			*83-115%*	"							"	
Duplicate (9080051-DUP1)					**QC Source: ASH0047-04**		**Extracted: 08/14/09 11:26**							
Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	ND	--	--	--	NR	(12)	08/14/09 19:24	
Surrogate(s): 4-BFB		*Recovery: 113%*			*Limits: 85-115%*	"							*08/14/09 19:24*	
Dibromofluoromethane		*77.0%*			*81-124%*	"							"	*Z6*
Toluene-d8		*89.6%*			*83-115%*	"							"	
Matrix Spike (9080051-MS1)					**QC Source: ASH0047-05**		**Extracted: 08/14/09 11:26**							
Benzene	EPA 8260B	19.3	---	0.500	ug/l	1x	ND	20.0	96.5%	(65-138)	--	--	08/14/09 20:23	
Toluene	"	19.1	---	1.00	"	"	ND	"	95.5%	(80-120)	--	--	"	
Ethylbenzene	"	21.7	---	1.00	"	"	ND	"	108%	(76-130)	--	--	"	
Xylenes (total)	"	65.5	---	3.00	"	"	ND	60.0	109%	(65-140)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 104%*			*Limits: 85-115%*	"							*08/14/09 20:23*	
Dibromofluoromethane		*74.8%*			*81-124%*	"							"	*Z6*
Toluene-d8		*89.4%*			*83-115%*	"							"	
Matrix Spike Dup (9080051-MSD1)					**QC Source: ASH0047-05**		**Extracted: 08/14/09 11:26**							
Benzene	EPA 8260B	19.9	---	0.500	ug/l	1x	ND	20.0	99.3%	(65-138)	2.86%	(20)	08/14/09 20:52	
Toluene	"	20.2	---	1.00	"	"	ND	"	101%	(80-120)	5.80%	"	"	
Ethylbenzene	"	22.8	---	1.00	"	"	ND	"	114%	(76-130)	5.21%	"	"	
Xylenes (total)	"	69.0	---	3.00	"	"	ND	60.0	115%	(65-140)	5.18%	"	"	
Surrogate(s): 4-BFB		*Recovery: 106%*			*Limits: 85-115%*	"							*08/14/09 20:52*	
Dibromofluoromethane		*72.5%*			*81-124%*	"							"	*Z6*
Toluene-d8		*91.7%*			*83-115%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9080462 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080462-BLK1)							**Extracted: 08/13/09 09:05**							
Acetone	EPA 8260B	ND	---	25.0	ug/l	1x	--	--	--	--	--	--	08/13/09 11:54	
Benzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromodichloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Butanone (MEK)	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Carbon disulfide	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Chloromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-chloropropane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibromochloromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dibromoethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Dichlorodifluoromethane	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9080462 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080462-BLK1)							**Extracted: 08/13/09 09:05**							
Hexachlorobutadiene	EPA 8260B	ND	---	4.00	ug/l	1x	--	--	--	--	--	--	08/13/09 11:54	
2-Hexanone	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
p-Isopropyltoluene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
4-Methyl-2-pentanone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Methyl tert-butyl ether	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Methylene chloride	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
n-Propylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
m,p-Xylene	"	ND	---	2.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 94.0%*			*Limits: 80-120%*	"							*08/13/09 11:54*	
1,2-DCA-d4		*97.2%*			*80-120%*	"							"	
Toluene-d8		*97.6%*			*80-120%*	"							"	
4-BFB		*104%*			*80-120%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: B0045803	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	08/20/09 16:16

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9080462 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (9080462-BS1)								**Extracted: 08/13/09 09:05**						
Benzene	EPA 8260B	19.2	---	1.00	ug/l	1x	--	20.0	96.2%	(80-120)	--	--	08/13/09 10:43	
Chlorobenzene	"	19.3	---	1.00	"	"	--	"	96.4%	(80-124)	--	--	"	
1,1-Dichloroethene	"	19.9	---	1.00	"	"	--	"	99.7%	(78-120)	--	--	"	
Toluene	"	19.4	---	1.00	"	"	--	"	97.2%	(80-124)	--	--	"	
Trichloroethene	"	19.2	---	1.00	"	"	--	"	96.2%	(80-132)	--	--	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 97.8%*			*Limits: 80-120%*	"							*08/13/09 10:43*	
1,2-DCA-d4		*91.7%*			*80-120%*	"							"	
Toluene-d8		*98.8%*			*80-120%*	"							"	
4-BFB		*103%*			*80-120%*	"							"	
LCS Dup (9080462-BSD1)								**Extracted: 08/13/09 09:05**						
Benzene	EPA 8260B	16.8	---	1.00	ug/l	1x	--	20.0	84.2%	(80-120)	13.2%	(25)	08/13/09 11:07	
Chlorobenzene	"	16.7	---	1.00	"	"	--	"	83.3%	(80-124)	14.5%	"	"	
1,1-Dichloroethene	"	17.0	---	1.00	"	"	--	"	85.2%	(78-120)	15.6%	"	"	
Toluene	"	16.8	---	1.00	"	"	--	"	84.0%	(80-124)	14.5%	"	"	
Trichloroethene	"	16.9	---	1.00	"	"	--	"	84.5%	(80-132)	12.9%	"	"	
Surrogate(s): Dibromofluoromethane		*Recovery: 95.2%*			*Limits: 80-120%*	"							*08/13/09 11:07*	
1,2-DCA-d4		*93.2%*			*80-120%*	"							"	
Toluene-d8		*98.3%*			*80-120%*	"							"	
4-BFB		*105%*			*80-120%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9080290 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080290-BLK1)							**Extracted: 08/10/09 10:30**							
Acenaphthene	EPA 8270m	ND	---	0.100	ug/l	1x	--	--	--	--	--	--	08/12/09 23:20	
Acenaphthylene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.200	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.100	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 92.4%*			*Limits: 25-125%*	"							*08/12/09 23:20*	
Pyrene-d10		*102%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*86.7%*			*10-125%*	"							"	
LCS (9080290-BS1)							**Extracted: 08/10/09 10:30**							
Acenaphthene	EPA 8270m	2.28	---	0.100	ug/l	1x	--	2.50	91.3%	(26-135)	--	--	08/12/09 23:50	
Benzo (a) pyrene	"	2.18	---	0.100	"	"	--	"	87.0%	(38-137)	--	--	"	
Pyrene	"	2.48	---	0.100	"	"	--	"	99.0%	(33-133)	--	--	"	
Surrogate(s): Fluorene-d10		*Recovery: 96.5%*			*Limits: 25-125%*	"							*08/12/09 23:50*	
Pyrene-d10		*101%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*89.9%*			*10-125%*	"							"	
LCS Dup (9080290-BSD1)							**Extracted: 08/10/09 10:30**							
Acenaphthene	EPA 8270m	2.25	---	0.100	ug/l	1x	--	2.50	90.1%	(26-135)	1.36%	(60)	08/13/09 00:22	
Benzo (a) pyrene	"	2.21	---	0.100	"	"	--	"	88.4%	(38-137)	1.51%	"	"	
Pyrene	"	2.43	---	0.100	"	"	--	"	97.2%	(33-133)	1.90%	"	"	
Surrogate(s): Fluorene-d10		*Recovery: 93.1%*			*Limits: 25-125%*	"							*08/13/09 00:22*	
Pyrene-d10		*97.8%*			*23-150%*	"							"	
Benzo (a) pyrene-d12		*90.3%*			*10-125%*	"							"	

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

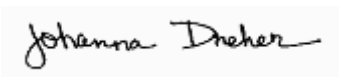
EDB, DBCP and TCP in Drinking Water per EPA 504.1 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 9080561 **Water Preparation Method: Micro Liq/Liq Shake**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9080561-BLK1)								**Extracted: 08/17/09 16:00**						
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	ND	---	0.0000200	mg/l	1x	--	--	--	--	--	--	08/17/09 20:25	
1,2-Dibromoethane (EDB)	"	ND	---	0.0000100	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane (TCP)	"	ND	---	0.0000200	"	"	--	--	--	--	--	--	"	
LCS (9080561-BS1)								**Extracted: 08/17/09 16:00**						
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	0.000186	---	0.0000200	mg/l	1x	--	0.000194	95.7%	(70-130)	--	--	08/17/09 19:59	
1,2-Dibromoethane (EDB)	"	0.000189	---	0.0000100	"	"	--	"	97.1%	"	--	--	"	
1,2,3-Trichloropropane (TCP)	"	0.000216	---	0.0000200	"	"	--	"	111%	"	--	--	"	
LCS Dup (9080561-BSD1)								**Extracted: 08/17/09 16:00**						
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	0.000182	---	0.0000200	mg/l	1x	--	0.000194	93.6%	(70-130)	2.20%	(30)	08/17/09 20:51	
1,2-Dibromoethane (EDB)	"	0.000194	---	0.0000100	"	"	--	"	99.7%	"	2.58%	"	"	
1,2,3-Trichloropropane (TCP)	"	0.000214	---	0.0000200	"	"	--	"	110%	"	0.984%	"	"	

TestAmerica Anchorage



Johanna L Dreher, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	B0045803	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	08/20/09 16:16

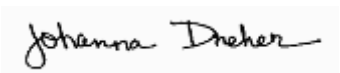
Notes and Definitions

Report Specific Notes:

RL1	-	Reporting limit raised due to sample matrix effects.
RL7	-	Sample required dilution due to high concentrations of target analyte.
Z6	-	Surrogate recovery was below acceptance limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
Electronic Signature	-	Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy.* Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.



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11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210
11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290
9405 SW Nimbus Ave,Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: ASH0036

CLIENT: ARCADIS

REPORT TO: Greg Montgomery
ADDRESS: 2300 Eastlake Ave E Suite 200
Seattle WA 98102
PHONE: 206 325 8218 FAX:

INVOICE TO: Chevron EMC

P.O. NUMBER: NWRTB-0309152-1-LAB

PROJECT NAME: Swope # 309152
PROJECT NUMBER: B0045803
SAMPLED BY: DB/AO

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses: [10] STD. | 7 | 5 | 4 | 3 | 2 | 1 | <1

Petroleum Hydrocarbon Analyses: [5] STD. | 4 | 3 | 2 | 1 | <1

OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PRESERVATIVE: H | H | H | H | NaS_2O_3 | H | —

REQUESTED ANALYSES: BTEX 8021B | GRO AK101 | DRO AK103 | RRO AK103 | EDB 8011 | VOCs 8260B | PAH 8270

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	BTEX 8021B	GRO AK101	DRO AK103	RRO AK103	EDB 8011	VOCs 8260B	PAH 8270	MATRIX (W, S, O)	# OF CONT.	LOCATION/ COMMENTS	TA WO ID
1	PZ-1	08/03/09 / 10:45	X	X	X	X	X	X	X	W	13		01
2	PZ-2	08/03/09 / 11:00	X	X	X	X	X	X	X	W	13		02
3	Dup-1	08/03/09 / —	X	X	X	X	X	X	X	W	13		03
4	Trip Blank	08/03/09 / —	X	X						—	6		04
5													
6													
7													
8													
9													
10													

RELEASED BY: PRINT NAME: Dawn Beenbe FIRM: ARCADIS DATE: 08/05/09 TIME: 08:20

RECEIVED BY: PRINT NAME: Kelly Cobbs FIRM: TA ANC DATE: 8/6/09 TIME: 0930

RELEASED BY: PRINT NAME: FIRM: DATE: TIME:

RECEIVED BY: PRINT NAME: FIRM: DATE: TIME:

ADDITIONAL REMARKS:

Cooler 1 TB

TEMP: 5.8

PAGE 1 OF 1

TAL-1000(0408)

Cooler 1 Inside 4.4
Cooler 2 TB 3.2
Cooler 2 Inside 3.9

Cooler # 1

Test America Anchorage Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # ASH0035, 36 **CLIENT:** Arcadis **PROJECT:** Saupe # 309152

Date /Time Cooler Arrived 8 / 6 / 09 09 : 30 Cooler signed for by: Kelly Cobbs (Print name)

Preliminary Examination Phase:

Date cooler opened: ☒ same as date received *or* ____/____/____

Cooler opened by (print) Kelly Cobbs (sign) [signature]

1. Delivered by ☐ ALASKA AIRLINES ☒ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other: ____

   Shipment Tracking # if applicable 868892155136 (include copy of shipping papers in file)

2. Number of Custody Seals ϕ Signed by N/A Date ___/___/___

   Were custody seals unbroken and intact on arrival? ☐ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☒ Yes ☐ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☒ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☒ Yes ☐ No

6. Was ice used? ☒ Yes ☐ No Type of ice: ☐ blue ice ☐ gel ice ☒ real ice ☐ dry ice Condition of Ice: melting

   Temperature by Digi-Thermo Probe 5.8 °C TB Thermometer # Rec # 5

   Acceptance Criteria: 0 - 6°C 4.4 inside cooler

7. Packing in Cooler: ☒ bubble wrap ☐ styrofoam ☐ cardboard ☐ Other: ____

8. Did samples arrive in plastic bags? ☑ Yes ☐ No VOA vials only

9. Did all bottles arrive unbroken, and with labels in good condition? ☑ Yes ☐ No

10. Are all bottle labels complete (ID, date, time, etc.) ☑ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☐ Yes ☑ No time for sample PW-2 did not match

12. Are the containers and preservatives correct for the tests indicated? ☑ Yes ☐ No number of containers for trip blank is incorrect

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2? ☐ Yes ☐ No ☑ N/A

14. Is there adequate volume for the tests requested? ☑ Yes ☐ No

15. Were VOA vials free of bubbles? ☐ N/A ☐ Yes ☑ No

    If "NO" which containers contained "head space" or bubbles? Trip Blank (Anchorage) → ASH0036-04

Log-in Phase:

Date of sample log-in 08 / 06 / 09

Samples logged in by (print) Anastasia Gumuka (sign) [signature]

1. Was project identifiable from custody papers? ☑ Yes ☐ No
2. Do Turn Around Times and Due Dates agree? ☑ Yes ☐ No
3. Was the Project Manager notified of status? ☑ Yes ☐ No
4. Was the Lab notified of status? ☑ Yes ☐ No
5. Was the COC scanned and copied? ☑ Yes ☐ No

Test America Anchorage Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # ASK0035, 36 **CLIENT:** ARCADIS **PROJECT:** Scope #309152

Date /Time Cooler Arrived 8/6/09 09:30 Cooler signed for by: Kelly Cobbs (Print name)

Preliminary Examination Phase:

Date cooler opened: ☒ same as date received *or* ____/____/____

Cooler opened by (print) Kelly Cobbs (sign) [signature]

1. Delivered by ☐ ALASKA AIRLINES ☒ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other: ____

   Shipment Tracking # if applicable 868892155136 (include copy of shipping papers in file)

2. Number of Custody Seals 2 Signed by Unknown Date 8/3/09

   Were custody seals unbroken and intact on arrival? ☑ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☑ Yes ☐ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☑ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☑ Yes ☐ No

6. Was ice used? ☑ Yes ☐ No Type of ice: ☐ blue ice ☐ gel ice ☒ real ice ☐ dry ice Condition of Ice: Melting

   Temperature by Digi-Thermo Probe 3.9 °C Thermometer # S

   Acceptance Criteria: 0 - 6°C 3.2 TB

7. Packing in Cooler: ☒ bubble wrap ☐ styrofoam ☐ cardboard ☐ Other: ____

8. Did samples arrive in plastic bags? ☐ Yes ☑ No

9. Did all bottles arrive unbroken, and with labels in good condition? ☑ Yes ☐ No 1 L Ambers

10. Are all bottle labels complete (ID, date, time, etc.) ☑ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☐ Yes ☑ No time for sample PW-2 did not match

12. Are the containers and preservatives correct for the tests indicated? ☑ Yes ☐ No

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2? ☐ Yes ☐ No ☑ N/A

14. Is there adequate volume for the tests requested? ☑ Yes ☐ No

15. Were VOA vials free of bubbles? ☐ N/A ☑ Yes ☐ No

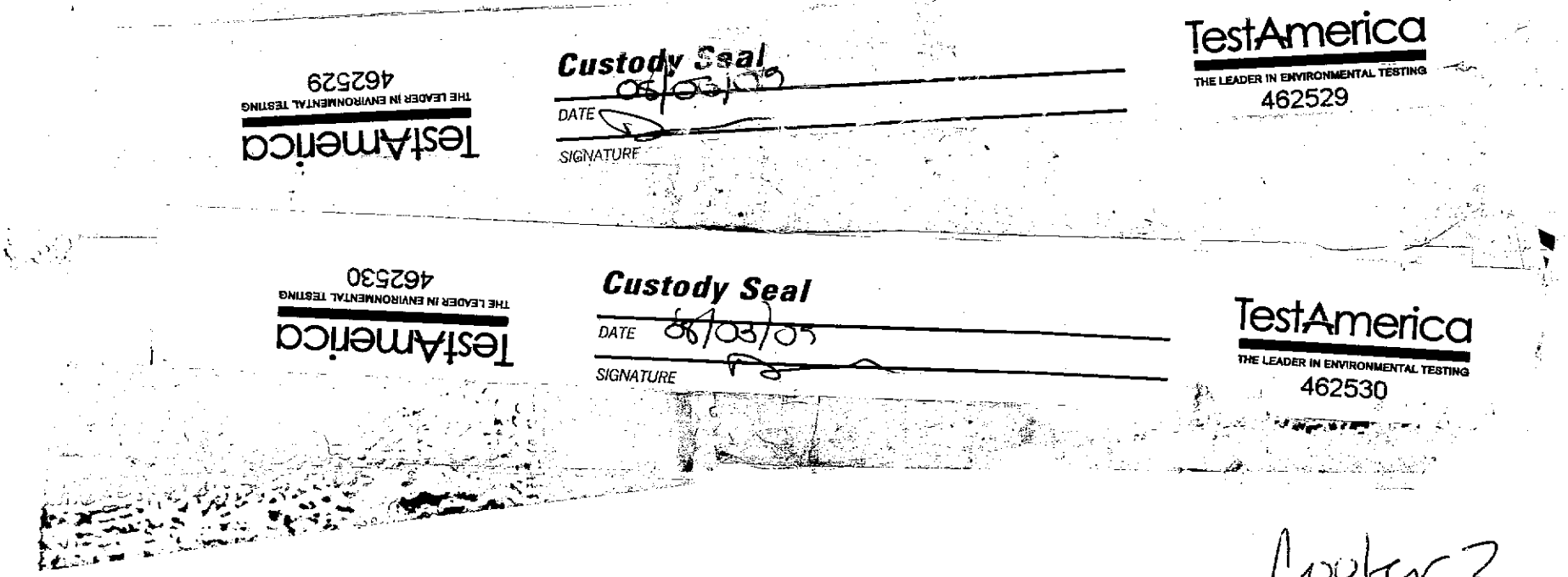
    If "NO" which containers contained "head space" or bubbles? ____

Log-in Phase:

Date of sample log-in 08/06/09

Samples logged in by (print) Anastasia Gumulia (sign) [signature]

1. Was project identifiable from custody papers? ☑ Yes ☐ No
2. Do Turn Around Times and Due Dates agree? ☑ Yes ☐ No
3. Was the Project Manager notified of status? ☑ Yes ☐ No
4. Was the Lab notified of status? ☑ Yes ☐ No
5. Was the COC scanned and copied? ☑ Yes ☐ No



Cooler 2

ASH 0035
ASH 0036

TestAmerica
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ANCHORAGE, AK 99502-1119
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CS Approval Number: UST-067

October 06, 2009

Greg Montgomery
Arcadis - Seattle
2300 East Lake Ave East Suite 100
Seattle, WA 98102

RE: Saupe #309152

Enclosed are the results of analyses for samples received by the laboratory on 09/22/09 10:35. The following list is a summary of the Work Orders contained in this report, generated on 10/06/09 17:04.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
ASI0097	Saupe #309152	[none]

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
STORM WATER-1	ASI0097-01	Water	09/19/09 09:45	09/22/09 10:35
Trip Blank	ASI0097-02	Water	09/19/09 00:00	09/22/09 10:35

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

Analytical Case Narrative

TestAmerica - Anchorage, AK

ASI0097

Comments:

The sample volume received for EDB by method 8011 was mistakenly forwarded to a TestAmerica - Tacoma which was unable to run EDB by method 8011. There was a three day delay in notification of this error. Once notified, efforts were made by Tacoma to send the sample to TestAmerica- Spokane within hold. Due to the seven day hold for this analysis the sample did not reach Spokane before the hold was broken. The sample was run as quickly as possible to minimize any low bias that may occur as a result of the excedence of the hold time.

The client was notified of the broken hold on October 2, 2009.

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**					**Sampled: 09/19/09 09:45**				
Diesel Range Organics	AK102/103	**0.664**	-----	0.391	mg/l	1x	9100006	10/02/09 09:41	10/02/09 18:16	DS	
Residual Range Organics	"	**0.583**	-----	0.391	"	"	"	"	"	DS	**L1**
Surrogate(s): 1-Chlorooctadecane			*92.0%*		*50 - 150 %*	"			"		
Triacontane			*88.8%*		*50 - 150 %*	"			"		

The results provided in this report have not been approved for final release by the Laboratory, and are provided in DRAFT format at the request of the client. Reported results may not have been fully reviewed, and are subject to change.

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Selected Volatile Organic Compounds per EPA Method 8260B

TestAmerica Anchorage

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**					**Sampled: 09/19/09 09:45**				
Gasoline Range Organics	EPA 8260B	ND	-----	50.0	ug/l	1x	9090085	09/22/09 21:44	09/23/09 18:33	KC	
Benzene	"	ND	-----	0.500	"	"	"	"	"	KC	
Toluene	"	ND	-----	1.00	"	"	"	"	"	KC	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	KC	
Xylenes (total)	"	ND	-----	3.00	"	"	"	"	"	KC	
Surrogate(s): *4-BFB*			*109%*		*85 - 115 %*	"			"		
Dibromofluoromethane			*148%*		*65 - 125 %*	"			"		***A-01b***
Toluene-d8			*98.4%*		*78 - 115 %*	"			"		
ASI0097-02 (Trip Blank)		**Water**					**Sampled: 09/19/09 00:00**				
Gasoline Range Organics	EPA 8260B	ND	-----	50.0	ug/l	1x	9090085	09/22/09 21:44	09/23/09 17:04	KC	
Benzene	"	ND	-----	0.500	"	"	"	"	"	KC	
Toluene	"	ND	-----	1.00	"	"	"	"	"	KC	
Ethylbenzene	"	ND	-----	1.00	"	"	"	"	"	KC	
Xylenes (total)	"	ND	-----	3.00	"	"	"	"	"	KC	
Surrogate(s): *4-BFB*			*113%*		*85 - 115 %*	"			"		
Dibromofluoromethane			*146%*		*65 - 125 %*	"			"		***A-01b***
Toluene-d8			*96.2%*		*78 - 115 %*	"			"		

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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: EDB by EPA Method 8011

TestAmerica Spokane

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**						**Sampled: 09/19/09 09:45**			**H**
1,2-Dibromoethane	EPA 8011	ND	-----	0.0100	ug/l	1x	9090185	09/29/09 14:00	09/30/09 15:38	Mat	
1,2-Dibromo-3-chloropropane	"	ND	-----	0.0100	"	"	"	"	09/30/09 16:13	Mat	

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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Semivolatile Organic Compounds (GC/MS SIM)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**					**Sampled: 09/19/09 09:45**				
Naphthalene	8270C STD	ND	-----	0.094	ug/L	1x	50872	09/25/09 09:08	09/29/09 18:55	AP	
2-Methylnaphthalene	"	ND	-----	0.12	"	"	"	"	"	AP	
1-Methylnaphthalene	"	ND	-----	0.094	"	"	"	"	"	AP	
Acenaphthylene	"	ND	-----	0.094	"	"	"	"	"	AP	
Acenaphthene	"	ND	-----	0.094	"	"	"	"	"	AP	
Fluorene	"	ND	-----	0.094	"	"	"	"	"	AP	
Phenanthrene	"	ND	-----	0.094	"	"	"	"	"	AP	
Anthracene	"	ND	-----	0.094	"	"	"	"	"	AP	
Fluoranthene	"	ND	-----	0.094	"	"	"	"	"	AP	
Pyrene	"	ND	-----	0.094	"	"	"	"	"	AP	
Benzo[a]anthracene	"	ND	-----	0.094	"	"	"	"	"	AP	
Chrysene	"	ND	-----	0.094	"	"	"	"	"	AP	
Benzo[b]fluoranthene	"	ND	-----	0.094	"	"	"	"	"	AP	
Benzo[k]fluoranthene	"	ND	-----	0.094	"	"	"	"	"	AP	
Benzo[a]pyrene	"	ND	-----	0.19	"	"	"	"	"	AP	
Indeno[1,2,3-cd]pyrene	"	ND	-----	0.094	"	"	"	"	"	AP	
Dibenz(a,h)anthracene	"	ND	-----	0.094	"	"	"	"	"	AP	
Benzo[g,h,i]perylene	"	ND	-----	0.094	"	"	"	"	"	AP	
Surrogate(s): *Nitrobenzene-d5*			*96%*		*34 - 146 %*	"			"		
2-Fluorobiphenyl			*94%*		*35 - 143 %*	"			"		
Terphenyl-d14			*105%*		*35 - 166 %*	"			"		

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**				**Sampled: 09/19/09 09:45**					
Dichlorodifluoromethane	8260B STD	ND	-----	1.0	ug/L	1x	51106	09/30/09 09:22	09/30/09 09:22	TR	
Chloromethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Vinyl chloride	"	ND	-----	1.0	"	"	"	"	"	TR	
Bromomethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Chloroethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Trichlorofluoromethane	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1-Dichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
Methylene Chloride	"	ND	-----	1.0	"	"	"	"	"	TR	
trans-1,2-Dichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1-Dichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
2,2-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
cis-1,2-Dichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorobromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Chloroform	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,1-Trichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Carbon tetrachloride	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
Benzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Trichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
Dibromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Dichlorobromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
cis-1,3-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
Toluene	"	ND	-----	1.0	"	"	"	"	"	TR	
trans-1,3-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,2-Trichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Tetrachloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorodibromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Ethylene Dibromide	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Ethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
m-Xylene & p-Xylene	"	ND	-----	2.0	"	"	"	"	"	TR	
o-Xylene	"	ND	-----	1.0	"	"	"	"	"	TR	

DRAFT REPORT

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ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-01 (STORM WATER-1)		**Water**				**Sampled: 09/19/09 09:45**					
Styrene	8260B STD	ND	-----	1.0	ug/L	1x	51106	09/30/09 09:22	09/30/09 09:22	TR	
Bromoform	"	ND	-----	1.0	"	"	"	"	"	TR	
Isopropylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Bromobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
N-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,3-Trichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
2-Chlorotoluene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
4-Chlorotoluene	"	ND	-----	1.0	"	"	"	"	"	TR	
tert-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
sec-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
4-Isopropyltoluene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,4-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
n-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dibromo-3-Chloropropane	"	ND	-----	2.0	"	"	"	"	"	TR	
1,2,4-Trichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,3-Trichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Hexachlorobutadiene	"	ND	-----	1.0	"	"	"	"	"	TR	
Naphthalene	"	ND	-----	1.0	"	"	"	"	"	TR	
Surrogate(s): *Fluorobenzene (Surr)*		*103%*		*80 - 120 %*	"				"		
Toluene-d8 (Surr)		*102%*		*85 - 120 %*	"				"		
Ethylbenzene-d10		*105%*		*80 - 120 %*	"				"		
4-Bromofluorobenzene (Surr)		*106%*		*75 - 120 %*	"				"		
Trifluorotoluene (Surr)		*87%*		*80 - 120 %*	"				"		
ASI0097-02 (Trip Blank)		**Water**				**Sampled: 09/19/09 00:00**					
Dichlorodifluoromethane	8260B STD	ND	-----	1.0	ug/L	1x	51106	09/30/09 06:58	09/30/09 06:58	TR	
Chloromethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Vinyl chloride	"	ND	-----	1.0	"	"	"	"	"	TR	
Bromomethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Chloroethane	"	ND	-----	5.0	"	"	"	"	"	TR	
Trichlorofluoromethane	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1-Dichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
Methylene Chloride	"	ND	-----	1.0	"	"	"	"	"	TR	

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ANCHORAGE, AK 99502-1119
ph: (907) 563.9200 fax: (907) 563.9210
CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-02 (Trip Blank)		**Water**				**Sampled: 09/19/09 00:00**					
trans-1,2-Dichloroethene	8260B STD	ND	-----	1.0	ug/L	1x	51106	09/30/09 06:58	09/30/09 06:58	TR	
1,1-Dichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
2,2-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
cis-1,2-Dichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorobromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Chloroform	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,1-Trichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Carbon tetrachloride	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
Benzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Trichloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
Dibromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Dichlorobromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
cis-1,3-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
Toluene	"	ND	-----	1.0	"	"	"	"	"	TR	
trans-1,3-Dichloropropene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,2-Trichloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Tetrachloroethene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3-Dichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorodibromomethane	"	ND	-----	1.0	"	"	"	"	"	TR	
Ethylene Dibromide	"	ND	-----	1.0	"	"	"	"	"	TR	
Chlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Ethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,1,2-Tetrachloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
1,1,2,2-Tetrachloroethane	"	ND	-----	1.0	"	"	"	"	"	TR	
m-Xylene & p-Xylene	"	ND	-----	2.0	"	"	"	"	"	TR	
o-Xylene	"	ND	-----	1.0	"	"	"	"	"	TR	
Styrene	"	ND	-----	1.0	"	"	"	"	"	TR	
Bromoform	"	ND	-----	1.0	"	"	"	"	"	TR	
Isopropylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Bromobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
N-Propylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,3-Trichloropropane	"	ND	-----	1.0	"	"	"	"	"	TR	
2-Chlorotoluene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3,5-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	

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ANCHORAGE, AK 99502-1119
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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS)

TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
ASI0097-02 (Trip Blank)		**Water**				**Sampled: 09/19/09 00:00**					
4-Chlorotoluene	8260B STD	ND	-----	1.0	ug/L	1x	51106	09/30/09 06:58	09/30/09 06:58	TR	
tert-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,4-Trimethylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
sec-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,3-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
4-Isopropyltoluene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,4-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
n-Butylbenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2-Dibromo-3-Chloropropane	"	ND	-----	2.0	"	"	"	"	"	TR	
1,2,4-Trichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
1,2,3-Trichlorobenzene	"	ND	-----	1.0	"	"	"	"	"	TR	
Hexachlorobutadiene	"	ND	-----	1.0	"	"	"	"	"	TR	
Naphthalene	"	ND	-----	1.0	"	"	"	"	"	TR	
Surrogate(s): *Fluorobenzene (Surr)*			*98%*		*80 - 120 %*	"				"	
Toluene-d8 (Surr)			*100%*		*85 - 120 %*	"				"	
Ethylbenzene-d10			*106%*		*80 - 120 %*	"				"	
4-Bromofluorobenzene (Surr)			*107%*		*75 - 120 %*	"				"	
Trifluorotoluene (Surr)			*86%*		*80 - 120 %*	"				"	

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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Diesel Range Organics (C10-C25) and Residual Range Organics (C25-C36) per AK102/RRO - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9100006 **Water Preparation Method: EPA 3510**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9100006-BLK1)							**Extracted: 10/02/09 09:41**							
Diesel Range Organics	AK102/103	ND	---	0.500	mg/l	1x	--	--	--	--	--	--	10/02/09 16:10	
Residual Range Organics	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 105%*			*Limits: 50-150%*	"							*10/02/09 16:10*	
Triacontane		*87.8%*			*50-150%*	"							"	
LCS (9100006-BS1)							**Extracted: 10/02/09 09:41**							
Diesel Range Organics	AK102/103	10.6	---	0.500	mg/l	1x	--	10.3	103%	(75-125)	--	--	10/02/09 16:41	
Residual Range Organics	"	12.9	---	0.500	"	"	--	10.2	126%	(60-120)	--	--	"	L1
Surrogate(s): 1-Chlorooctadecane		*Recovery: 108%*			*Limits: 60-120%*	"							*10/02/09 16:41*	
Triacontane		*100%*			*60-120%*	"							"	
LCS Dup (9100006-BSD1)							**Extracted: 10/02/09 09:41**							
Diesel Range Organics	AK102/103	9.79	---	0.500	mg/l	1x	--	10.3	95.1%	(75-125)	7.87%	(20)	10/02/09 17:13	
Residual Range Organics	"	12.1	---	0.500	"	"	--	10.2	118%	(60-120)	6.55%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 105%*			*Limits: 60-120%*	"							*10/02/09 17:13*	
Triacontane		*99.8%*			*60-120%*	"							"	
Duplicate (9100006-DUP1)					**QC Source: ASI0097-01**		**Extracted: 10/02/09 09:41**							
Diesel Range Organics	AK102/103	0.660	---	0.397	mg/l	1x	0.664	--	--	--	0.491%	(20)	10/02/09 17:45	
Residual Range Organics	"	0.666	---	0.397	"	"	0.583	--	--	--	13.3%	(50)	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 93.4%*			*Limits: 50-150%*	"							*10/02/09 17:45*	
Triacontane		*90.8%*			*50-150%*	"							"	

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Arcadis - Seattle	Project Name:	**Saupe #309152**
2300 East Lake Ave East Suite 100	Project Number:	[none]
Seattle, WA 98102	Project Manager:	Greg Montgomery
		Report Created: 10/06/09 17:04

DRAFT: Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9090085 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9090085-BLK1)							**Extracted: 09/22/09 21:44**							
Gasoline Range Organics	EPA 8260B	ND	---	50.0	ug/l	1x	--	--	--	--	--	--	09/23/09 15:35	
Benzene	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.00	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	3.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 116%*			*Limits: 85-115%*	"							*09/23/09 15:35*	*A-01*
Dibromofluoromethane		*141%*			*65-125%*	"							"	*A-01b*
Toluene-d8		*99.0%*			*78-115%*	"							"	
LCS (9090085-BS1)							**Extracted: 09/22/09 21:44**							
Benzene	EPA 8260B	21.6	---	0.500	ug/l	1x	--	20.0	108%	(67-125)	--	--	09/23/09 14:36	
Toluene	"	19.1	---	1.00	"	"	--	"	95.5%	(80-120)	--	--	"	
Ethylbenzene	"	18.0	---	1.00	"	"	--	"	90.2%	"	--	--	"	
Xylenes (total)	"	52.1	---	3.00	"	"	--	60.0	86.8%	"	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 102%*			*Limits: 85-115%*	"							*09/23/09 14:36*	
Dibromofluoromethane		*147%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*101%*			*78-115%*	"							"	
LCS (9090085-BS2)							**Extracted: 09/22/09 21:44**							
Gasoline Range Organics	EPA 8260B	626	---	50.0	ug/l	1x	--	550	114%	(60-120)	--	--	09/23/09 15:06	
Surrogate(s): 4-BFB		*Recovery: 108%*			*Limits: 85-115%*	"							*09/23/09 15:06*	
Dibromofluoromethane		*140%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*98.8%*			*78-115%*	"							"	
LCS Dup (9090085-BSD1)							**Extracted: 09/22/09 21:44**							
Benzene	EPA 8260B	21.8	---	0.500	ug/l	1x	--	20.0	109%	(67-125)	0.921%	(20)	09/23/09 21:30	
Toluene	"	19.3	---	1.00	"	"	--	"	96.3%	(80-120)	0.834%	"	"	
Ethylbenzene	"	18.2	---	1.00	"	"	--	"	91.2%	"	1.16%	"	"	
Xylenes (total)	"	52.8	---	3.00	"	"	--	60.0	88.0%	"	1.34%	"	"	
Surrogate(s): 4-BFB		*Recovery: 103%*			*Limits: 85-115%*	"							*09/23/09 21:30*	
Dibromofluoromethane		*152%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*99.0%*			*78-115%*	"							"	

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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Selected Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Anchorage

QC Batch: 9090085 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (9090085-BSD2)							**Extracted: 09/22/09 21:44**							
Gasoline Range Organics	EPA 8260B	590	---	50.0	ug/l	1x	--	550	107%	(60-120)	5.96%	(20)	09/23/09 22:00	
Surrogate(s): 4-BFB		*Recovery: 108%*			*Limits: 85-115%*	"							*09/23/09 22:00*	
Dibromofluoromethane		*141%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*99.4%*			*78-115%*	"							"	
Duplicate (9090085-DUP1)					**QC Source: ASI0088-17**		**Extracted: 09/22/09 21:44**							
Gasoline Range Organics	EPA 8260B	221	---	50.0	ug/l	1x	207	--	--	--	6.60%	(12)	09/23/09 19:32	
Surrogate(s): 4-BFB		*Recovery: 113%*			*Limits: 85-115%*	"							*09/23/09 19:32*	
Dibromofluoromethane		*148%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*97.6%*			*78-115%*	"							"	
Matrix Spike (9090085-MS1)					**QC Source: ASI0088-15**		**Extracted: 09/22/09 21:44**							
Benzene	EPA 8260B	21.0	---	0.500	ug/l	1x	ND	20.0	105%	(65-138)	--	--	09/23/09 20:02	
Toluene	"	18.7	---	1.00	"	"	ND	"	93.6%	(80-120)	--	--	"	
Ethylbenzene	"	16.8	---	1.00	"	"	ND	"	84.2%	(76-130)	--	--	"	
Xylenes (total)	"	50.3	---	3.00	"	"	ND	60.0	83.8%	(65-140)	--	--	"	
Surrogate(s): 4-BFB		*Recovery: 111%*			*Limits: 85-115%*	"							*09/23/09 20:02*	
Dibromofluoromethane		*150%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*97.0%*			*78-115%*	"							"	
Matrix Spike Dup (9090085-MSD1)					**QC Source: ASI0088-15**		**Extracted: 09/22/09 21:44**							
Benzene	EPA 8260B	22.9	---	0.500	ug/l	1x	ND	20.0	115%	(65-138)	8.84%	(20)	09/23/09 20:31	
Toluene	"	20.2	---	1.00	"	"	ND	"	101%	(80-120)	7.75%	"	"	
Ethylbenzene	"	18.5	---	1.00	"	"	ND	"	92.6%	(76-130)	9.39%	"	"	
Xylenes (total)	"	55.3	---	3.00	"	"	ND	60.0	92.2%	(65-140)	9.54%	"	"	
Surrogate(s): 4-BFB		*Recovery: 107%*			*Limits: 85-115%*	"							*09/23/09 20:31*	
Dibromofluoromethane		*149%*			*65-125%*	"							"	*A-01a*
Toluene-d8		*95.5%*			*78-115%*	"							"	

ANCHORAGE, AK 2000 W. INTERNATIONAL AIRPORT ROAD, SUITE A-10
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CS Approval Number: UST-067

Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: EDB by EPA Method 8011 - Laboratory Quality Control Results

TestAmerica Spokane

QC Batch: 9090185 **Water Preparation Method: EPA 3510/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9090185-BLK1)								**Extracted: 09/29/09 14:00**						
1,2-Dibromoethane	EPA 8011	ND	---	0.0100	ug/l	1x	--	--	--	--	--	--	09/30/09 14:26	
1,2-Dibromo-3-chloropropane	"	ND	---	0.0100	"	"	--	--	--	--	--	--	09/30/09 15:02	
LCS (9090185-BS1)								**Extracted: 09/29/09 14:00**						
1,2-Dibromoethane	EPA 8011	0.138	---	0.0100	ug/l	1x	--	0.125	111%	(60-140)	--	--	09/30/09 15:02	
1,2-Dibromo-3-chloropropane	"	0.143	---	0.0100	"	"	--	"	114%	"	--	--	09/30/09 15:38	
LCS (9090185-BS2)								**Extracted: 09/29/09 14:00**						
1,2-Dibromoethane	EPA 8011	0.142	---	0.0100	ug/l	1x	--	0.125	114%	(60-140)	--	--	09/30/09 13:50	
1,2-Dibromo-3-chloropropane	"	0.149	---	0.0100	"	"	--	"	119%	"	--	--	09/30/09 14:26	

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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Semivolatile Organic Compounds (GC/MS SIM) - Laboratory Quality Control Results

TestAmerica Tacoma

QC Batch: 50872 **Water Preparation Method: 3510C**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (580-50950-33)			**QC Source:**						**Extracted: 09/25/09 09:08**					
Naphthalene	8270C STD	ND	---	0.10	ug/L	1x	--	--	--	--	--	--	09/27/09 02:56	
2-Methylnaphthalene	"	ND	---	0.13	"	"	--	--	--	--	--	--	"	
1-Methylnaphthalene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Acenaphthylene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Acenaphthene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Benzo[a]anthracene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Benzo[b]fluoranthene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Benzo[k]fluoranthene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Benzo[a]pyrene	"	ND	---	0.20	"	"	--	--	--	--	--	--	"	
Indeno[1,2,3-cd]pyrene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Dibenz(a,h)anthracene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Benzo[g,h,i]perylene	"	ND	---	0.10	"	"	--	--	--	--	--	--	"	
Surrogate(s): Nitrobenzene-d5		*Recovery: 98%*			*Limits: 34-146%*	"							*09/27/09 02:56*	
2-Fluorobiphenyl		*93%*			*35-143%*	"							"	
Terphenyl-d14		*103%*			*35-166%*	"							"	
LCS (580-50950-34)			**QC Source:**						**Extracted: 09/25/09 09:08**					
Naphthalene	8270C STD	9.34	---	0.10	ug/L	1x	--	10.0	93%	(49-130)	--	--	09/27/09 03:16	
2-Methylnaphthalene	"	10.7	---	0.13	"	"	--	"	107%	(64-125)	--	--	"	
1-Methylnaphthalene	"	9.68	---	0.10	"	"	--	"	97%	(47-148)	--	--	"	
Acenaphthylene	"	9.94	---	0.10	"	"	--	"	99%	(71-126)	--	--	"	
Acenaphthene	"	9.68	---	0.10	"	"	--	"	97%	(65-130)	--	--	"	
Fluorene	"	10.0	---	0.10	"	"	--	"	100%	(69-129)	--	--	"	
Phenanthrene	"	9.43	---	0.10	"	"	--	"	94%	(62-128)	--	--	"	
Anthracene	"	9.56	---	0.10	"	"	--	"	95%	(73-128)	--	--	"	
Fluoranthene	"	9.51	---	0.10	"	"	--	"	95%	(64-124)	--	--	"	
Pyrene	"	9.50	---	0.10	"	"	--	"	95%	(58-140)	--	--	"	
Benzo[a]anthracene	"	9.27	---	0.10	"	"	--	"	92%	(70-126)	--	--	"	
Chrysene	"	10.0	---	0.10	"	"	--	"	100%	"	--	--	"	
Benzo[b]fluoranthene	"	9.84	---	0.10	"	"	--	"	98%	(64-140)	--	--	"	
Benzo[k]fluoranthene	"	9.35	---	0.10	"	"	--	"	94%	(62-142)	--	--	"	
Benzo[a]pyrene	"	10.0	---	0.20	"	"	--	"	100%	(72-128)	--	--	"	
Indeno[1,2,3-cd]pyrene	"	9.50	---	0.10	"	"	--	"	95%	(58-139)	--	--	"	

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

DRAFT: Semivolatile Organic Compounds (GC/MS SIM) - Laboratory Quality Control Results

TestAmerica Tacoma

QC Batch: 50872 **Water Preparation Method: 3510C**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (580-50950-34)			**QC Source:**						**Extracted: 09/25/09 09:08**					
Dibenz(a,h)anthracene	8270C STD	9.82	---	0.10	ug/L	1x	--	10.0	98%	(61-146)	--	--	09/27/09 03:16	
Benzo[g,h,i]perylene	"	9.33	---	0.10	"	"	--	"	93%	(59-144)	--	--	"	
Surrogate(s): Nitrobenzene-d5		*Recovery: 107%*			*Limits: 34-146%*	"							*09/27/09 03:16*	
2-Fluorobiphenyl		*94%*			*35-143%*	"							*"*	
Terphenyl-d14		*107%*			*35-166%*	"							*"*	

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Project Name: **Saupe #309152**
Project Number: [none]
Project Manager: Greg Montgomery

Report Created: 10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS) - Laboratory Quality Control Results

TestAmerica Tacoma

QC Batch: 51106 **Water Preparation Method: 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (580-51106-27)					**QC Source:**								**Extracted: 09/30/09 13:45**	
1,1-Dichloroethene	8260B STD	22.9	---	1.0	ug/L	1x	--	20.1	114%	(70-130)	3%	(30)	09/30/09 13:45	
Benzene	"	21.0	---	1.0	"	"	--	"	105%	(80-120)	1%	"	"	
Trichloroethene	"	19.1	---	1.0	"	"	--	"	95%	(70-125)	4%	"	"	
Toluene	"	19.1	---	1.0	"	"	--	"	95%	(75-120)	0%	"	"	
Chlorobenzene	"	18.0	---	1.0	"	"	--	"	90%	(80-120)	6%	"	"	
Surrogate(s): Fluorobenzene (Surr)		*Recovery: 101%*			*Limits: 80-120%*	"							*09/30/09 13:45*	
Toluene-d8 (Surr)		*99%*			*85-120%*	"							"	
Ethylbenzene-d10		*103%*			*80-120%*	"							"	
4-Bromofluorobenzene (Surr)		*101%*			*75-120%*	"							"	
Trifluorotoluene (Surr)		*84%*			*80-120%*	"							"	
Blank (580-51106-3)					**QC Source:**								**Extracted: 09/30/09 03:46**	
Dichlorodifluoromethane	8260B STD	ND	---	1.0	ug/L	1x	--	--	--	--	--	--	09/30/09 03:46	
Chloromethane	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
Vinyl chloride	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Bromomethane	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
Chloroethane	"	ND	---	5.0	"	"	--	--	--	--	--	--	"	
Trichlorofluoromethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Methylene Chloride	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
trans-1,2-Dichloroethene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1-Dichloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
2,2-Dichloropropane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
cis-1,2-Dichloroethene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Chlorobromomethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Chloroform	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1,1-Trichloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Carbon tetrachloride	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1-Dichloropropene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Benzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2-Dichloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Trichloroethene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2-Dichloropropane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Dibromomethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Dichlorobromomethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
cis-1,3-Dichloropropene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
trans-1,3-Dichloropropene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1,2-Trichloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Tetrachloroethene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	

DRAFT REPORT

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CS Approval Number: UST-067

Arcadis - Seattle
2300 East Lake Ave East Suite 100
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Project Name: **Saupe #309152**
Project Number: [none]
Project Manager: Greg Montgomery

Report Created: 10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS) - Laboratory Quality Control Results

TestAmerica Tacoma

QC Batch: 51106 **Water Preparation Method: 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (580-51106-3)				**QC Source:**									**Extracted: 09/30/09 03:46**	
1,3-Dichloropropane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Chlorodibromomethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Ethylene Dibromide	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Chlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1,1,2-Tetrachloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,1,2,2-Tetrachloroethane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
m-Xylene & p-Xylene	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
o-Xylene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Styrene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Bromoform	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Isopropylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Bromobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
N-Propylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,3-Trichloropropane	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
2-Chlorotoluene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,3,5-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
4-Chlorotoluene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
tert-Butylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,4-Trimethylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
sec-Butylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
4-Isopropyltoluene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
n-Butylbenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2-Dibromo-3-Chloropropane	"	ND	---	2.0	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
1,2,3-Trichlorobenzene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Hexachlorobutadiene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	1.0	"	"	--	--	--	--	--	--	"	
Surrogate(s):	*Fluorobenzene (Surr)*	*Recovery:*	*102%*		*Limits:*	*80-120%*	"						*09/30/09 03:46*	
	Toluene-d8 (Surr)		*98%*			*85-120%*	"						"	
	Ethylbenzene-d10		*112%*			*80-120%*	"						"	
	4-Bromofluorobenzene (Surr)		*106%*			*75-120%*	"						"	
	Trifluorotoluene (Surr)		*88%*			*80-120%*	"						"	

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Arcadis - Seattle	Project Name: **Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number: [none]	Report Created:
Seattle, WA 98102	Project Manager: Greg Montgomery	10/06/09 17:04

DRAFT: Volatile Organic Compounds (GC/MS) - Laboratory Quality Control Results

TestAmerica Tacoma

QC Batch: 51106 **Water Preparation Method: 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (580-51106-4)			**QC Source:**					**Extracted: 09/30/09 04:10**						
1,1-Dichloroethene	8260B STD	22.2	---	1.0	ug/L	1x	--	20.1	111%	(70-130)	--	--	09/30/09 04:10	
Benzene	"	20.8	---	1.0	"	"	--	"	104%	(80-120)	--	--	"	
Trichloroethene	"	19.8	---	1.0	"	"	--	"	99%	(70-125)	--	--	"	
Toluene	"	19.1	---	1.0	"	"	--	"	95%	(75-120)	--	--	"	
Chlorobenzene	"	19.1	---	1.0	"	"	--	"	95%	(80-120)	--	--	"	
Surrogate(s):	*Fluorobenzene (Surr)*	*Recovery:*	*103%*		*Limits:*	*80-120%*	*"*						*09/30/09 04:10*	
	Toluene-d8 (Surr)		*99%*			*85-120%*	*"*						*"*	
	Ethylbenzene-d10		*112%*			*80-120%*	*"*						*"*	
	4-Bromofluorobenzene (Surr)		*110%*			*75-120%*	*"*						*"*	
	Trifluorotoluene (Surr)		*86%*			*80-120%*	*"*						*"*	

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Arcadis - Seattle	Project Name:	**Saupe #309152**	
2300 East Lake Ave East Suite 100	Project Number:	[none]	Report Created:
Seattle, WA 98102	Project Manager:	Greg Montgomery	10/06/09 17:04

Notes and Definitions

Report Specific Notes:

A-01	-	8260 4-Bromofluorobenzene is high and does not meet lab QC goals. Target analytes associated with this instrument surogate were not detected. Results are not effected.
A-01a	-	8260 Dibromofluoromethane is high and does not meet lab QC goals. Results associated with this surrogate may be biased high.
A-01b	-	8260 Dibromofluoromethane is high and does not meet lab QC goals. Target analytes associated with this instrument surogate were not detected. Results are not effected.
H	-	Sample analysis performed past method-specified holding time.
L1	-	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

Laboratory Reporting Conventions:

DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

SACOC

TestAmerica
ANALYTICAL TESTING CORPORATION

CHAIN OF CUSTODY

❑ 885 Jarvis Drive • **Morgan Hill, CA 95037** • (408) 776-9600 • FAX (408) 782-6308
❑ 819 Striker Ave., Suite 8 • **Sacramento, CA 95834** • (916) 921-9600 • FAX (916) 921-0100

Company Name: ARCADIS		Project: Chevron #309152 (Soupe)	
Mailing Address: 2700 Eastlake Ave E #200		Billing Address (if different): NWRTR-0309152-1-LAB	
City: Seattle	State: WA Zip Code: 98102		
Telephone: 206-726-4742	Fax #:	P.O. #:	
Report To: Greg Montgomery	E-Mail Address: Gregory.Montgomery@arcadis-us.com	QC Data: ❑ Level II (standard) ❑ Level III ❑ Level IV	
Sampler: Andrew Olmstead	Date/Time Results Required:	Test America Work Order #: ASI0097	

Turnaround Time:
- ☒ 10-15 Working Days (Standard TAT)
- ❑ 7 Working Days
- ❑ 5 Working Days
- ❑ 72 hours
- ❑ 48 hours
- ❑ 24 hours
- ❑ 2-8 hours

MANDATORY:
- ❑ SDWA (Drinking Water)
- ❑ CWA (Waste Water)
- ❑ RCRA (Hazardous Waste)
- ❑ Other

ANALYSES REQUESTED (Please provide method)

Client Sample I.D.	Date / Time Sampled	Matrix Desc.	# of Cont.	Container Type	Test America's Sample #	GRO by AK101	DRO by AK102	RRO by AK103	VOCs by 8260B	PAHs by 8270	EDB by 8011	BTEX by 8021B			Comments/Temp. (if required)
1. STORM WATER-1	9/1a/09 9:45	H_2O	11	Various		X	X	X	X	X	X	X			01
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished by/Co.: [signature] /ARCADIS	Received by/Co.: [signature] TA ANC	Date/Time/Temp: 9122/09 10.35 1.1°C
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:
Relinquished by/Co.:	Received by/Co.:	Date/Time/Temp:

Were Samples Received in Good Condition? ❑ Yes ❑ No Samples on Ice? ❑ Yes ❑ No Method of Shipment: _____ Page ____ of ____

Note: By relinquishing samples to Test America, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of the invoice. Sample(s) will be disposed of after 30 days.

White: Test America **Yellow:** Test America **Pink:** Client

Test America Anchorage Cooler Receipt Form

(Army Corps. Compliant)

WORK ORDER # AS10097 CLIENT: Arcadis PROJECT: Chevron #389152 (Sample)

Date /Time Cooler Arrived 9/22/09 10:35 Cooler signed for by: Kelsey Gerbrandt (Print name)

Preliminary Examination Phase:

Date cooler opened: ☑ same as date received or ____/____/____

Cooler opened by (print) Kelsey Gerbrandt (sign) [signature]

1. Delivered by ☐ ALASKA AIRLINES ☑ Fed-Ex ☐ UPS ☐ NAC ☐ LYNDEN ☐ CLIENT ☐ Other: ____

Shipment Tracking # if applicable 8688 9252 4610 (include copy of shipping papers in file)

2. Number of Custody Seals 1 Signed by See Back Date 9/21/09

Were custody seals unbroken and intact on arrival? ☑ Yes ☐ No

3. Were custody papers sealed in a plastic bag? ☑ Yes ☐ No

4. Were custody papers filled out properly (ink, signed, etc.)? ☑ Yes ☐ No

5. Did you sign the custody papers in the appropriate place? ☑ Yes ☐ No

6. Was ice used? ☑ Yes ☐ No Type of ice: ☐ blue ice ☐ gel ice ☑ real ice ☐ dry ice Condition of Ice: melting

Temperature by Digi-Thermo Probe 1.1 °C Thermometer # Rec #5

Acceptance Criteria: 0 - 6°C

7. Packing in Cooler: ☑ bubble wrap ☐ styrofoam ☐ cardboard ☐ Other: ____

8. Did samples arrive in plastic bags? ☐ Yes ☒ No

9. Did all bottles arrive unbroken, and with labels in good condition? ☒ Yes ☐ No

10. Are all bottle labels complete (ID, date, time, etc.) ☒ Yes ☐ No

11. Do bottle labels and Chain of Custody agree? ☒ Yes ☐ No • Trip Blank not on CoC

12. Are the containers and preservatives correct for the tests indicated? ☒ Yes ☐ No

13. Conoco Phillips, Alyeska, BP H2O samples only: pH < 2? ☐ Yes ☐ No ☑ N/A

14. Is there adequate volume for the tests requested? ☒ Yes ☐ No

15. Were VOA vials free of bubbles? ☐ N/A ☐ Yes ☒ No

If "NO" which containers contained "head space" or bubbles? 02-AB

Log-in Phase:

Date of sample log-in 9/22/09

Samples logged in by (print) Kelsey Gerbrandt (sign) [signature]

1. Was project identifiable from custody papers? ☑ Yes ☐ No
2. Do Turn Around Times and Due Dates agree? ☑ Yes ☐ No
3. Was the Project Manager notified of status? ☑ Yes ☐ No
4. Was the Lab notified of status? ☑ Yes ☐ No
5. Was the COC scanned and copied? ☑ Yes ☐ No

ASI0097

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
462915

Custody Seal 9/21/05

DATE

SIGNATURE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
462915

ARCADIS

Appendix C

ADEC Data Review Checklists

Laboratory Data Review Checklist

Completed by:	J. Russell Greisler
Title:	Scientist II
Date:	9/2/09
CS Report Name:	2009 Additional Site Assessment Report
Report Date:	9/2/09
Consultant Firm:	ARCADIS
Laboratory Name:	Test America
Laboratory Report Number:	ASG0075
ADEC File Number:	100.38.206
ADEC RecKey Number:	2006310127201

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?
   ◉ Yes ○ No Comments:

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:

4.6° C

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☉ Yes ○ No Comments:

Methanol preservative was added to samples ASG0075-01 and ASG0075-02 upon receipt in Anchorage (from Analytical Case Narrative)

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☉ Yes ○ No Comments:

Samples arrived intact at laboratory.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

○ Yes ○ No Comments:

Soil samples were received without methanol preservative; however, methanol preservative was added to the soil at the laboratory at the time of arrival and was accepted by the laboratory for analysis.

e. Data quality or usability affected? Explain.

Comments:

The quality and usability of the data is not expected to be affected by the time at which methanol preservative was added to the soil prior to sample analysis.

4. Case Narrative

a. Present and understandable?

☉ Yes ○ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

○ Yes ☉ No Comments:

c. Were all corrective actions documented?

○ Yes ○ No Comments:

N/A

d. What is the effect on data quality/usability according to the case narrative?

Comments:

N/A

5. Samples 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?

☉ 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:

e. Data quality or usability affected?

Comments:

N/A

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?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

N/A

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 (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (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?

Comments:

N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

N/A

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

N/A

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☉ 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)

☉ Yes ○ No Comments:

In sample PZ-2-16-18", the surrogate dibromofluoromethane was below acceptance limits (75-125%) at 71.6%. The surrogate 4-BFB was outside the associated acceptance limit (75-125%) at 74.6% due to sample matrix effects.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

○ Yes ☉ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

The data quality and usability is not expected to be affected by the surrogate recoveries.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>

i. One trip blank reported per matrix, analysis and cooler?

○ Yes ☉ No Comments:

Trip blank was included but not analyzed by laboratory, according to laboratory trip blanks not analyzed due to incorrect matrix.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ○ No Comments:

Trip blank is indicated on COC.

iii. All results less than PQL?

○ Yes ○ No Comments:

N/A

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☐ Yes ☒ No Comments:

ii. Submitted blind to lab?

☐ Yes ☐ No Comments:

N/A

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐ Yes ☐ No Comments:

N/A

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

N/A

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

N/A

Laboratory Data Review Checklist

Completed by:	J. Russell Greisler
Title:	Scientist II
Date:	9/2/09
CS Report Name:	2009 Additional Site Assessment Report
Report Date:	9/2/09
Consultant Firm:	ARCADIS
Laboratory Name:	Test America
Laboratory Report Number:	ASH0036
ADEC File Number:	100.38.206
ADEC RecKey Number:	2006310127201

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?
   ◉ Yes ○ No Comments:

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:

Ranged between 3.2° C and 5.8° C

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☉ Yes ○ No Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☉ Yes ○ No Comments:

Samples arrived intact at laboratory.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☉ Yes ○ No Comments:

PZ-2 collection time on COC and time written on bottle ware did not match; the number of trip blank voas written on COC not correct.

e. Data quality or usability affected? Explain.

Comments:

The quality and usability of the data is not affected. Sample collection time was clarified.

4. Case Narrative

a. Present and understandable?

☉ Yes ○ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

○ Yes ☉ No Comments:

c. Were all corrective actions documented?

○ Yes ○ No Comments:

N/A

d. What is the effect on data quality/usability according to the case narrative?

Comments:

N/A

5. Samples 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?

( ) Yes ( ) No Comments:

N/A

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

( ) Yes (●) No Comments:

The PQL for benzene in the PZ-1, PZ-2 and DUP-1 samples met the cleanup level for benzene at 5 µg/L; however in each case there were detections of benzene in the sample which exceeded the PQL.

e. Data quality or usability affected?

Comments:

The data quality or usability is not affected by PQL as there were detections above the PQL.

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?

N/A

Comments:

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

N/A

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 (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (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?

Comments:

N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

N/A

vii. Data quality or usability affected? (Use comment box to explain)
Comments:

N/A

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☉ 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)

☉ Yes ○ No Comments:

In sample PZ-1, the surrogate dibromofluoromethane was below acceptance limits (81-124%) at 75.9%. In sample PZ-2, the surrogate dibromofluoromethane was below acceptance limits (81-124%) at 75.4%.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

○ Yes ○ No Comments:

The sample is flagged for having been diluted due to high concentrations of the target analyte.

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

The data quality and usability is not expected to be affected by the surrogate recoveries.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

☉ Yes ○ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ○ No Comments:

Trip blank is indicated on COC.

iii. All results less than PQL?

☉ Yes ○ No Comments:

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☉ Yes ○ No Comments:

ii. Submitted blind to lab?

○ Yes ○ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

○ Yes ☉ No Comments:

Following RPDs are greater than 30% for water: RRO=35.05%, GRO=32.06%, toluene=42.40%, ethylbenzene=38.20%, total xylenes=101.61%, and naphthalene=31.51%.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Unknown if the RPDs affect the quality of the data. The data usability is not expected to be affected.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

N/A

Laboratory Data Review Checklist

Completed by:	J. Russell Greisler
Title:	Scientist II
Date:	10/9/09
CS Report Name:	2009 Additional Site Assessment Report
Report Date:	10/9/09
Consultant Firm:	ARCADIS
Laboratory Name:	Test America
Laboratory Report Number:	ASI0097
ADEC File Number:	100.38.206
ADEC RecKey Number:	2006310127201

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?
   ◉ Yes ○ No Comments:

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:

Documented at 1.1° C

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☒ Yes ☐ No Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☒ Yes ☐ No Comments:

Samples arrived intact at laboratory.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☒ Yes ☐ No Comments:

From analytical case narrative: "The sample volume received for EDB by method 8011 was mistakenly forwarded to a TestAmerica – Tacoma which was unable to run EDB by method 8011. There was a three day delay in notification of this error. Once notified, efforts were made by Tacoma to send the sample to TestAmerica – Spokane within hold. Due to the seven day hold for this analysis the sample did not reach Spokane within hold. Due to the seven day hold for this analysis the sample did not reach Spokane before the hold was broken. The sample was run as quickly as possible to minimize any low bias that may occur as a result of the exceedence of the hold time."

e. Data quality or usability affected? Explain.

Comments:

The quality of the data may have been affected, and usability of the data is not expected to be affected. As the samples were both non-detect and analyzed past holding time, low bias may or may not have occurred. Other VOCs were analyzed within hold time and were non-detect.

4. Case Narrative

a. Present and understandable?

☒ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☐ Yes ☒ No Comments:

c. Were all corrective actions documented?

☐ Yes ☐ No Comments:

N/A

d. What is the effect on data quality/usability according to the case narrative?

Comments:

N/A

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

☐ Yes ☐ No Comments:

b. All applicable holding times met?

☐ Yes ☐ No Comments:

EDB was analyzed outside the holding time.

c. All soils reported on a dry weight basis?

☐ Yes ☐ No Comments:

N/A

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☐ Yes ☐ No Comments:

e. Data quality or usability affected?

Comments:

N/A

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?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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)

☑ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☐ Yes ☐ No Comments:

N/A

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:

The surrogate dibromofluoromethane was outside the specified recovery range for LCS, LCS duplicate, MS, and MS duplicate QC for GRO and BTEX analyses.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (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?

Comments:

N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

N/A

vii. Data quality or usability affected? (Use comment box to explain)
Comments:

N/A

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

◉ 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)

◉ Yes ○ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

○ Yes ○ No Comments:

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>

i. One trip blank reported per matrix, analysis and cooler?

○ Yes ◉ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ○ No Comments:

N/A

iii. All results less than PQL?

○ Yes ○ No Comments:

N/A

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

○ Yes ◉ No Comments:

ii. Submitted blind to lab?

○ Yes ○ No Comments:

N/A

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

○ Yes ○ No Comments:

N/A

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

N/A

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

○ Yes ○ No ◉ Not Applicable

i. All results less than PQL?

○ Yes ○ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

N/A