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**Groundwater Monitoring Report
ADOT&PF Nome Maintenance Fueling Station
and MarkAir Nome**

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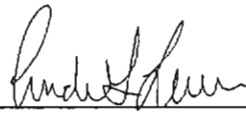
Groundwater Monitoring Report ADOT&PF Nome Maintenance Fueling Station and MarkAir Nome

Prepared for:

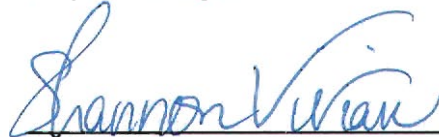
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION CONTAMINATED SITES PROGRAM

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This document has been prepared by SLR International Corp. The material and data in this report were prepared under the supervision and direction of the undersigned.



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FOR

Ben Siwec
Project Geologist

CONTENTS

1.	INTRODUCTION.....	1
1.1	Purpose	1
1.2	Objectives.....	1
1.3	Qualified Person	1
2.	PROJECT BACKGROUND	2
2.1	Site Background	2
2.2	Conceptual Site Model.....	3
2.3	Regulatory Criteria.....	3
2.3.1	Groundwater	3
3.	DESCRIPTION OF FIELD ACTIVITIES	5
3.1	Locate and Evaluate Wells.....	5
3.1.1	Alaska DOT Site.....	5
3.1.2	MarkAir Site.....	5
3.2	Groundwater Sampling	5
3.2.1	Sampling Methods+.....	5
3.2.2	Samples Collected	6
3.3	Monitoring Well Survey	6
3.4	Document Additional Environmental Concerns	7
3.5	Recommendations From Field Work.....	7
4.	ANALYTICAL SAMPLING PROGRAM	8
4.1	Groundwater Analytical Program	8
4.2	Sampling Quality Assurance/Quality Control.....	8
4.3	Analytical Results	9
4.3.1	Alaska DOT Site.....	9
4.3.2	MarkAir Site.....	9
4.4	Plume Migration at the MarkAir Site.....	10
5.	DISCUSSION AND RECOMMENDATIONS	11
5.1	Alaska DOT Site	11
5.2	MarkAir Site	11
6.	REFERENCES.....	12

CONTENTS (CONTINUED)

TABLES

Table 1	MarkAir Nome Monitoring Well Locations
Table 2	MarkAir and ADOT&PF Analytical Results

FIGURES

Figure 1	Location and Vicinity Map
Figure 2	Nome Maintenance Fueling Station Site Detail
Figure 3	MarkAir Nome Site Detail

APPENDICES

Appendix A	Resume of Qualified Individual
Appendix B	Laboratory Data and Quality Assurance Information
Appendix C	Photographic Log
Appendix D	Field Forms and Field Logbook

ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADOT&PF	Alaska Department of Transportation & Public Facilities
AST	aboveground storage tank
BTEX	benzene, toluene, ethylbenzene, and xylenes
COC	chain-of-custody
CSM	conceptual site model
CSP	Contaminated Sites Program
DRO	diesel range organics
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
GRO	gasoline range organics
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NOAA	National Oceanic and Atmospheric Administration
PCE	tetrachloroethylene
SLR	SLR International Corp
TCE	trichloroethylene
UST	underground storage tank
VOC	volatile organic compound

1. INTRODUCTION

The Alaska Department of Environmental Conservation (ADEC) contracted SLR International Corp (SLR) to perform a groundwater monitoring event at the Alaska Department of Transportation and Public Facilities' (ADOT&PF) Nome Maintenance Fueling Station (DOT Site) and MarkAir – Nome (MarkAir Site) in Nome, Alaska (see Figure 1).

1.1 PURPOSE

This project had two main purposes, as follows:

- Determine current groundwater quality conditions at the DOT Site and ensure there are no risks to the downgradient drinking water wells; and
- Determine whether the contaminant plume is stable, decreasing or increasing at the MarkAir Site.

1.2 OBJECTIVES

The objective of this project was to complete a groundwater monitoring event. SLR performed the following:

- Locate and evaluate the condition of three drinking water wells and nine groundwater monitoring wells.
- Determine the need for repairs to the groundwater monitoring wells and make minor repairs as necessary.
- Collect samples from all located wells.
- Document any additional environmental concerns.
- Complete a closed loop survey of the monitoring wells at the MarkAir Site.

1.3 QUALIFIED PERSON

Mr. Ben Siwec served as SLR's qualified person and completed the work on site. Mr. Siwec's resume is provided in Appendix A.

2. PROJECT BACKGROUND

This section describes background information and applicable regulatory criteria for the sites.

2.1 SITE BACKGROUND

The following information was provided in the request for proposal dated March 3, 2011 (ADEC, 2011).

The DOT Site facility (Contaminated Sites Program [CSP] Hazardous Identification Number 25031) (see Figure 2) had two underground storage tanks (UST) removed in 1993; a 3,000-gallon diesel tank and a 6,000-gallon leaded gasoline tank. The tanks were approximately 30 years old and situated directly beneath two dispensers. The January 1994 closure report described the removal of these two fuel tanks and assessed a 25,000-gallon heating oil tank that was still in use at the time. The tanks passed a tightness test and did not appear to have leaked. However, when they were removed, there was evidence that fuel product had leaked or spilled from past operations. It was reported that a small volume of soil was removed and the remaining soil from the excavation was used as backfill. The soil samples collected from the tank excavation limits detected 17,000 milligrams per kilogram (mg/kg) of gasoline range organics (GRO), 9,000 mg/kg of diesel range organics (DRO), 1,100 mg/kg benzene, 3,700 mg/kg toluene, 630 mg/kg ethylbenzene, and 3,800 mg/kg xylenes (BTEX). A subsequent site assessment in March 1994 included the installation of eight soil borings to a depth of 12 feet below ground surface with groundwater reportedly encountered between 10 and 11 feet. The borings were sampled at 5 feet and in the groundwater smear zone with only two samples exceeding ADEC cleanup levels. Benzene and DRO were detected in the smear zone at concentrations of 0.18 mg/kg and 260 mg/kg, respectively.

Two drinking water wells are located within the ADOT&PF property. According to ADOT&PF, these wells were decommissioned and new wells were installed in 2009. A third drinking water well is located downgradient of the DOT Site at the Darling residence. See Figure 2. Note that the locations of the wells on Figure 2 are the locations of the wells prior to 2009.

The MarkAir Site (CSP Hazardous Identification Number 2940) (see Figure 3), located at Lot 2 Block 11, is currently leased by Era Aviation for storage. Cleanup at the MarkAir Site included decommissioning of floor drains, removal of one heating oil UST and two gasoline aboveground storage tanks (ASTs), and excavation of contaminated soil adjacent to floor drains and tanks. Eleven soil borings were installed and finished as monitoring wells, with two of them being destroyed (monitoring well MW1 in 2004) or decommissioned (monitoring well MW2 in 2006). Impacted groundwater has been documented in six of the remaining nine wells. Groundwater monitoring has taken place since 2002 (see Shannon & Wilson, 2006 for historical data) with the most recent groundwater sampling event taking place in August 2006. Of the six wells sampled, contamination remains above ADEC cleanup levels for DRO in five of the wells and GRO in one. Benzene levels were above the ADEC groundwater cleanup level of 0.005 milligrams per liter (mg/L) in two wells (0.0834 mg/L in monitoring well MW4 and 0.0103 mg/L in monitoring well MW7).

Contamination above the migration to groundwater cleanup level (0.294 mg/kg) for tetrachloroethylene (PCE) was detected in the soil excavated from the floor drains. Groundwater was sampled for chlorinated solvents in a limited number of wells; however, groundwater direction has been variable over all sampling events and not all wells have been sampled.

2.2 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) was provided for the MarkAir Site by Shannon & Wilson (2007). Contained herein is a summary of this CSM.

The CSM was prepared to identify known and potential sources and exposure pathways associated with petroleum hydrocarbons and potentially other hazardous substances at the Site. The CSM was prepared using ADEC's *Human Health Conceptual Site Model Scoping Form* and the *Human Health Conceptual Site Model Graphic*.

Identified contaminant sources include ASTs, a heating oil UST, a chemical storage area, and the floor drains. Potential release mechanisms include spills and leaks associated with the ASTs, the heating oil UST, the chemical storage area, as well as direct discharge at the floor drains. Potentially impacted media includes indoor and outdoor air, surface and subsurface soil, and groundwater. Potential receptors include commercial workers, construction workers, trespassers, and site visitors. Since the Site is located at an airport, residents and recreational users are not considered potential receptors.

Complete exposure pathways include the inhalation of indoor and outdoor air and the inhalation of fugitive dust during dry periods. Potentially complete exposure pathways include incidental soil ingestion, dermal absorption of contaminants from soil, dermal exposure to groundwater, and ingestion of groundwater. Ingestion of surface water and wild foods are considered not complete exposure pathways.

No CSM has been provided for the DOT Site as it is under institutional controls to control any complete exposure pathways.

2.3 REGULATORY CRITERIA

The DOT Site was granted a *Cleanup Complete with Institutional Controls* in 2007. Sampling of the nearby drinking water wells was established as part of the *institutional controls*.

Analytical data from sampling activities at the MarkAir Site will be compared to ADEC groundwater cleanup levels as described below.

2.3.1 GROUNDWATER

ADEC groundwater cleanup levels, as specified in 18 Alaska Administrative Code (AAC) 75.345, Table C (ADEC, 2011), are applicable to both locations. The groundwater cleanup levels for the identified compounds of interest are listed below.

- GRO, 2.2 mg/L

- DRO, 1.5 mg/L
- Benzene, 0.005 mg/L
- Toluene, 1.0 mg/L
- Ethylbenzene, 0.7 mg/L
- Xylenes, 10 mg/L
- Trichloroethylene (TCE), 0.005 mg/L
- Tetrachloroethylene, 0.005 mg/L
- Ethylene dibromide (EDB), 0.00005 mg/L

3. DESCRIPTION OF FIELD ACTIVITIES

Field activities are described in detail below. SLR coordinated access with personnel in Nome listed in the RFP prior to commencement of field work. Field forms and the field logbook can be found in Appendix D.

3.1 LOCATE AND EVALUATE WELLS

3.1.1 ALASKA DOT SITE

SLR located the drinking water wells at the Maintenance Building and the Materials Lab, and one additional well located at the Warm Storage Facility. All three wells were in operating condition and functioned properly. The drinking water well at the Darling residence, adjacent to the DOT Site, was also located and functioned properly. Water samples were gathered at all wells except the Warm Storage Facility, which was not within the scope of the project.

3.1.2 MARKAIR SITE

SLR successfully located seven of the nine wells at the MarkAir Site. Two monitoring wells, MW6 and MW9, could not be located and are presumed to be destroyed. There was no sign of them on the surface and attempts to locate them beneath the surface with a metal detector were not successful. The area in which they were located is used for vehicle access to the Alaska Airlines terminal and receives fairly high traffic. The area is also routinely snow plowed during the winter months.

The seven located wells were in operable condition, although samples could be gathered at four of the seven (discussed below). Minor repairs were performed as necessary, typically consisting of replacing 2" PVC plugs and cutting excess PVC casing protruding above the ground level. The condition of the surface completion of the wells was poor at monitoring wells MW7, MW10, and MW11. At each of those sites the flush-mount monument was damaged beyond repair and the steel monument lid was missing, although the well casing was intact and functional at each site. The condition of the surface completion at monitoring well MW4 was fair in that the flush-mount monument was complete and intact, but was frost-jacked about an inch above the ground surface.

3.2 GROUNDWATER SAMPLING

3.2.1 SAMPLING METHODS

Samples from the drinking water wells were collected from non-aerated spigots. Water was allowed to run for at least one minute prior to sample collection directly from the spigot.

Prior to purging the monitoring wells, an interface probe was used to detect if product was present, depth to water, and total casing depth measurements. Total casing water volume was calculated.

Samples from the monitoring wells were collected according to the following procedure. Water was purged from each well with a submersible pump and dedicated tubing, and in-line water quality monitoring equipment. Low flow sampling techniques were employed. Drawdown was minimized during purging with a goal of less than four inches. Field measurements of temperature, pH, specific conductivity, redox potential, dissolved oxygen, and turbidity were collected during the purging process. The purging process was considered complete once three successive, discrete measurements were within the following criteria (three of the parameters [four, if including temperature] will be monitored):

- Temperature ± 3 percent
- pH ± 0.1 pH unit
- Specific conductivity ± 3 percent
- Redox potential ± 10 mv
- Dissolved Oxygen $\pm 10\%$
- Turbidity $\pm 10\%$

Water quality parameters and other sampling information were recorded on Well Sampling Calculation and Record Sheets.

SLR treated purge water from the monitoring wells with an activated carbon filter system before discharging to the ground surface within site boundaries and a minimum of 100 feet away from any drinking water wells and/or surface waters.

3.2.2 SAMPLES COLLECTED

SLR was able to collect samples from all three drinking water wells on and near the DOT Site, as discussed above (samples from the wells at the Maintenance Building, Materials Lab, and Darling Residence are named FUEL1, LAB1, and DAR1, respectively).

Samples were collected at four of the nine monitoring wells on the MarkAir Site (MW3, MW7, MW10, and MW11). Of the monitoring wells not sampled, two could not be located (MW6 and MW9, discussed above). One monitoring well was located and operational, but dry (MW4). Two monitoring wells contained only about 6 inches of water and could not be purged or sampled with the equipment available (bladder pump with intake hole approximately 12 inches above base).

3.3 MONITORING WELL SURVEY

A closed-loop survey of the existing groundwater monitoring wells was completed to determine gradient at the former MarkAir Site. The accuracy of the closed loop survey is 0.1 feet horizontally and 0.01 feet vertically. Elevations are referenced to the National Oceanic and Atmospheric Administration (NOAA) tidal benchmark. Surveying was completed by George Krier, a registered land surveyor in Nome, Alaska. Results from the survey are presented in Table 1. See Figure 3 for the gradient determined as a result of the survey.

3.4 DOCUMENT ADDITIONAL ENVIRONMENTAL CONCERNS

SLR personnel completed a walk-through and spoke to ADOT&PF personnel regarding potential environmental issues. SLR documented no evidence of the following environmental issues:

- Presence of injection wells;
- Unreported spills;
- Identification of contamination during excavation;
- Leaking tanks;
- Land use changes that may encounter contamination, and
- Any other changes in site conditions.

Although no spills or other types of contamination were observed at the DOT Site, wet ground due to weather may have obscured something that would have been visible if dry.

3.5 RECOMMENDATIONS FROM FIELD WORK

Four monitoring wells at the MarkAir Site, while currently functional, require repairs to ensure that they remain functional. The remains of the original flush-mount well monuments should be removed and new monuments installed. Materials required would include new monuments, cement, and equipment to break old cement and dig.

An effort could be made at a later time to collect samples from monitoring wells MW5 and MW8 using a different type of pump. While the bladder pump could not draw water from levels below its intake (about 1 foot above its base), a submersible groundwater pump (stainless steel Proactive-type) or peristaltic pump would be able to gather this water. The recharge rates at these two wells are not known. It is also possible that the 6 inches of water encountered in each represents the water trapped in the sump at the bottom of each well and not active groundwater.

It is possible that water could be encountered at monitoring well MW4, which was dry, later in the fall when ice will have melted deeper and water levels will be high due to the wet season.

4. ANALYTICAL SAMPLING PROGRAM

The sampling programs for this groundwater monitoring event are described below.

4.1 GROUNDWATER ANALYTICAL PROGRAM

Collection of groundwater analytical samples was planned from three drinking water wells on and near the DOT Site and nine monitoring wells on the MarkAir Site.

Analysis goals of the groundwater analytical program consisted of the following:

- GRO using Alaska Method 101 –
 - MarkAir Site: monitoring wells MW4, MW7 and MW11
 - DOT Site: No samples planned
- DRO using Alaska Method 102 –
 - MarkAir Site: Eight monitoring wells (MW3, MW4, MW6, MW7, MW8, MW9, MW10, and MW11)
 - DOT Site: Three drinking water wells
- BTEX using U.S. Environmental Protection Agency (EPA) Method 8021B – drinking water wells, and;
 - MarkAir Site: Three monitoring wells (MW4, MW7, and MW11)
 - DOT Site: Three drinking water wells
- Volatile organic compounds (VOCs) using EPA Method 8260B –
 - MarkAir Site: Three monitoring wells (MW5, MW7, and MW11)
 - DOT Site: No samples planned
- EDB using EPA Method 8011 –
 - MarkAir Site: No samples planned
 - DOT Site: One drinking water well (Maintenance Fueling Station)

SLR was able to collect samples from all three drinking water wells on and near the DOT Site and four of the nine monitoring wells on the MarkAir Site (MW3, MW7, MW10, and MW11). Wells not sampled are discussed above.

4.2 SAMPLING QUALITY ASSURANCE/QUALITY CONTROL

Each sample, including trip blanks, was documented on a chain-of-custody (COC) form and submitted to SGS North America, Inc. (SGS) in Anchorage, an ADEC-approved laboratory. The name of the SLR field scientist, Ben Siwec was printed on the COC form adjacent to their signature.

One duplicate sample was collected per analytical method. Duplicates were given blind duplicated sample location names on the label and COC, instead of "Duplicate." Duplicate

sample names followed the same convention as primary sample names (e.g., the duplicate of primary sample MW10 is MW910 and the duplicate of FUEL1 is FUEL91).

A trip blank accompanied each sample container to be analyzed for BTEX, VOCs, or EDB from the laboratory through sample collection and transport back to the analytical laboratory. The trip blank was not opened during the sampling event and was analyzed for volatile contaminants with the samples. Two trip blanks were submitted and analyzed for BTEX, VOCs, and EDB.

All samples were transported to the contract laboratory in a chilled cooler under COC procedures, as described in Section 5.3 of the Work Plan (SLR, 2011). Normal turn-around times for the analytical testing were requested. The final analytical results are presented in ADEC-deliverable format.

SLR completed an ADEC Laboratory Data Review Checklist in accordance with ADEC guidance (ADEC, 2009) for each analytical report. In addition, SLR completed a Quality Assurance Review, which is included as part of this report in Appendix B.

4.3 ANALYTICAL RESULTS

4.3.1 ALASKA DOT SITE

All three drinking water samples were analyzed for DRO using Alaska Method 102 and BTEX using EPA Method 8021B. The well at the Maintenance Building was also sampled for EDB (sample name FUEL1). No contaminants were detected from the Maintenance Building or the Darling Residence (sample name DAR1). Toluene was detected at the Materials Lab (sample name LAB1; 0.0112 mg/L) but at a concentration much lower than the cleanup level (1 mg/L). Laboratory analytical results of detected analytes are summarized in Table 2. The laboratory data report is included in Appendix B.

4.3.2 MARKAIR SITE

Prior to collecting samples, an interface probe was lowered into each well to detect the presence of petroleum products. No petroleum products were sensed at any well.

Four monitoring wells were sampled for DRO (MW3, MW7, MW10, and MW11). At monitoring wells MW3, MW7, and MW11, results exceeded the cleanup level of 1.5 mg/L; MW3: 1.9 mg/L; MW7: 1.85 mg/L; MW11: 2.13 mg/L. DRO was not detected at monitoring well MW10.

Two monitoring wells were sampled for GRO (MW7 and MW11). GRO was detected at 0.0425 mg/L at monitoring well MW11, which is below the cleanup level of 2.2 mg/L. GRO was not detected at monitoring well MW7.

Two monitoring wells were sampled for BTEX and VOCs (MW7 and MW11). BTEX and VOCs over the applicable cleanup levels were not found at either well. Benzene at 0.0003 mg/L was found at monitoring well MW7 (cleanup level: 0.005 mg/L). Trichlorofluoromethane at 0.0579 mg/L was found at monitoring well MW7 (cleanup level: 11 mg/L). Xylene at 0.00167 mg/L was found at monitoring well MW11 (cleanup level: 10 mg/L). No other contaminants were detected.

Laboratory analytical results of detected analytes are summarized in Table 2. The laboratory data report is included in Appendix B.

4.4 PLUME MIGRATION AT THE MARKAIR SITE

It is not currently feasible to determine any definite conclusions regarding plume migration with the current data set. As shown on Figure 3, six of the seven monitoring wells on the western edge of the MarkAir Site (MW3, MW4, MW6, MW7, MW9, and MW11) have exceeded screening criteria for benzene, DRO, or GRO at least once since 2002. The groundwater gradient has a magnitude of 0.03 in a southeasterly direction. However no samples have been collected at wells southeast of the MarkAir Site since 2006. In 2011, monitoring wells MW5 and MW8 had too little water to sample, monitoring well MW4 was dry, and monitoring wells MW6 and MW9 could not be located. This has been identified as a data gap.

As shown by the results on Figure 3, hydrocarbon concentrations in the monitoring wells to the northwest of the MarkAir Site (MW3, MW7, and MW11) appear to be decreasing over time, while monitoring well MW4 (down gradient from those locations) appears to have increasing hydrocarbon concentrations over time. This suggests that there may be some plume migration along the groundwater gradient at the Site. However, without more data from areas south of the former MarkAir Building, this is unsubstantiated.

5. DISCUSSION AND RECOMMENDATIONS

5.1 ALASKA DOT SITE

None of the samples collected at the DOT Site were found to exceed ADEC cleanup levels.

5.2 MARKAIR SITE

Hydrocarbon concentrations in the monitoring wells to the northwest of the Site (MW3, MW7, and MW11) appear to be decreasing over time, while monitoring well MW4 (down gradient from those locations) appears to have increasing hydrocarbon concentrations over time. This suggests that there may be some plume migration along the groundwater gradient at the Site. More samples to the south of the former MarkAir Building must be collected to support this conclusion.

An effort should be made to collect samples from monitoring wells MW5 and MW8 using a different type of pump. While the bladder pump could not draw water from levels below its intake (about 1 foot above its base), a submersible groundwater pump (stainless steel Proactive-type) or peristaltic pump, would be able to collect this water. However it is possible that the 6 inches of water encountered in each represents the water trapped in the sump at the bottom of each well and not active groundwater.

It is also possible that if these wells were sampled later in the summer to allow for more ice melt to take place, the wells could recharge enough to allow for a more representative sample to be collected. Similarly water could be encountered at monitoring well MW4, which was dry, if it were sampled later in the summer.

If it is not possible to collect quality samples at monitoring wells MW4, MW5, and MW8, decommissioning these wells and the feasibility of drilling new boreholes for groundwater monitoring should be explored.

Furthermore, as discussed previously in Section 3.5, SLR recommends repairing the flush mounts at four of the existing MarkAir Site wells so that they remain functional for future monitoring. These include monitoring wells MW4, MW7, MW10 and MW11.

6. REFERENCES

- Alaska Department of Environmental Conservation (ADEC). 2011. Alaska Administrative Code (18 AAC 75), *Oil and Other Hazardous Substances Pollution Control*, as amended through October 9.
- ADEC. 2011. *Request for Proposal, Groundwater Monitoring Event, ADOT&PF Nome Maintenance Fueling Station and MarkAir Nome, Nome, Alaska*. March 3.
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- SLR International Corp, 2011. *Groundwater Monitoring Event Work Plan, ADOT&PF Nome Maintenance Fueling Station and MarkAir Nome*. May, 2011.

LIMITATIONS

The services described in this work product were performed in accordance with generally accepted professional consulting principles and practices. No other representations or warranties, expressed or implied, are made. These services were performed consistent with our agreement with our client. This work product is intended solely for the use and information of our client unless otherwise noted. Any reliance on this work product by a third party is at such party's sole risk.

Opinions and recommendations contained in this work product are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this work product.

The purpose of an environmental assessment is to reasonably evaluate the potential for, or actual impact of, past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an appropriate level of analysis for each conceivable issue of potential concern. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation can be thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, practical limitations, and cost of the work performed.

Environmental conditions that are not apparent may exist at the site. Our professional opinions are based in part on interpretation of data from a limited number of discrete sampling locations and therefore may not be representative of the actual overall site environmental conditions.

The passage of time, manifestation of latent conditions, or occurrence of future events may require further study at the site, analysis of the data, and/or reevaluation of the findings, observations, and conclusions in the work product.

This work product presents professional opinions and findings of a scientific and technical nature. The work product shall not be construed to offer legal opinion or representations as to the requirements of, nor the compliance with, environmental laws rules, regulations, or policies of federal, state or local governmental agencies.

TABLES

Table 1	MarkAir Nome Monitoring Well Locations
Table 2	MarkAir and ADOT&PF Analytical Results

Table 1: MarkAir Nome Monitoring Well Locations			
Well ID	Elevation ¹	Northing ²	Easting ²
MW1	Removed		
MW2	Decommissioned		
MW3	11.58	1170553.381	526938.0183
MW4	12.51	1170519.423	526934.2994
MW5	13.01	1170514.119	526957.1007
MW6	Not found during 2011 survey		
MW7	12.07	1170539.389	526928.9039
MW8	13.94	1170494.853	526951.0346
MW9	Not found during 2011 survey		
MW10	13.01	1170512.229	526917.7167
MW11	11.64	1170549.083	526926.6787
Notes:			
¹ - Mean Lower Low Water Feet			
² - NAD83 ACS Zone 8 meters			

Table 2: MarkAir and ADOT&PF Analytical Results¹

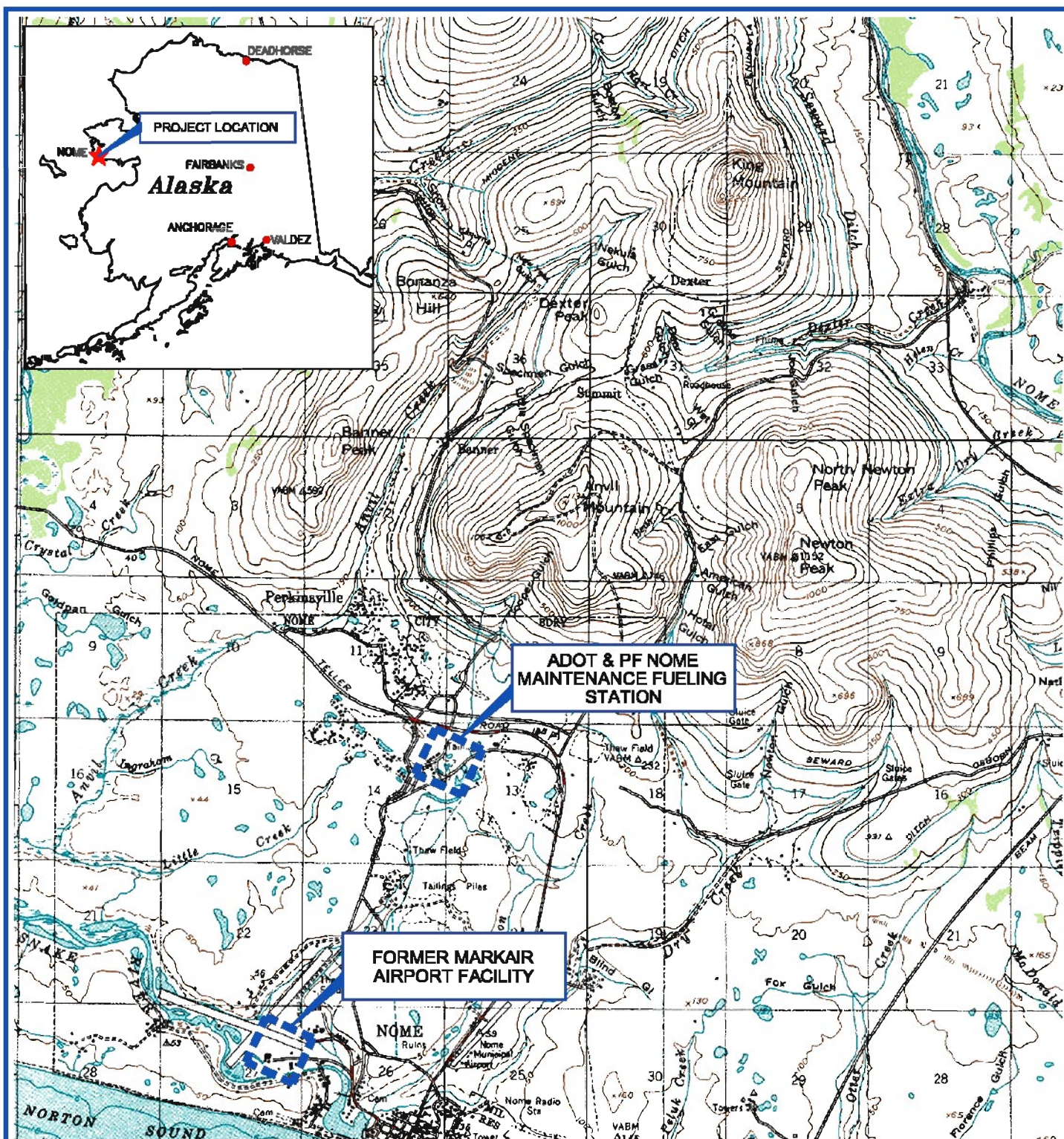
Compound milligrams per liter (mg/L)	Screening Criteria ²	DAR1	FUEL 1	LAB1	MW3	MW7	MW10	MW10-replicate	MW11	MW11-replicate
Fuels (AK101 and AK102)										
Gasoline Range Organics	2.2	--	--	--	--	[0.031] ND	--	--	0.0425 J	0.0421 J
Diesel Range Organics	1.5	[0.26] ND	[0.26] ND	[0.258] ND	1.9	1.85	[0.266] ND	[0.269] ND	2.13	--
Benzene, Toluene, Ethylbenzene, and Xylenes (SW8021B)										
Benzene	0.005	[0.00015] ND	[0.00015] ND	[0.00015] ND	--	0.0003 J	--	--	[0.00015] ND	[0.00015] ND
o-Xylene	--	[0.00062] ND	[0.00062] ND	[0.00062] ND	--	[0.00062] ND	--	--	0.00167 J	0.0017 J
Total Xylenes	10	[0.00062] ND	[0.00062] ND	[0.00062] ND	--	[0.00062] ND	--	--	0.00167 J	0.0017 J
Toluene	1	[0.00062] ND	[0.00062] ND	0.0112	--	[0.00062] ND	--	--	[0.00062] ND	[0.00062] ND
Volatile Organic Compounds (SW8260)										
Benzene	0.005	--	--	--	--	0.00031 J	--	--	[0.00012] ND	[0.00012] ND
Trichlorofluoromethane (Freon 11)	11	--	--	--	--	0.0579	--	--	[0.00031] ND	[0.00031] ND

Notes:
1 - Only analytes that were detected in at least one sampling location are presented. Remaining analytes were non-detect.
2 - Screening Criteria: The cleanup level corresponds to the value listed in ADEC 18 AAC 75.345, Table C, Groundwater Cleanup Levels, (January 2009).
[] - If an analyte was not detected, then the highest DL is shown in parenthesis.
Bolded values exceed the screening criteria (18 AAC 75 Table C).
-- not analyzed

Data Flags:
ND - nondetect, method detection limit is presented in brackets to the left.
J - estimated value, a "+" or "-" indicates a positive or negative bias.

FIGURES

- | | |
|----------|--|
| Figure 1 | Location and Vicinity Map |
| Figure 2 | Nome Maintenance Fueling Station Site Detail |
| Figure 3 | MarkAir Nome Site Detail |



REFERENCED FROM : U.S.G.S. TOPO; NOME (C-1) QUADRANGLE, 1:63360 SERIES



SCALE: 1" = 1mi

WHEN PLOTTED AT 8.5 x 11 PAGE SIZE



THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.



ALASKA DEPARTMENT OF ENVIRONMENTAL
CONSERVATION CONTAMINATED SITES PROGRAM
C/O TAMARA CARDONA-MAREK
610 UNIVERSITY AVENUE
FAIRBANKS, ALASKA 99709

Report **GROUNDWATER MONITOR EVENT
ADOT&PF NOME MAINTENANCE FUELING STATION
AND MARKAIR-NOME**

Drawing **LOCATION AND VICINITY MAP**

Date May 3, 2011

Scale 1" = 1mi

Project No.
105.00065.11003
105.00065.11004

Fig. No.

1



Legend
 WATER SUPPLY WELL SAMPLE LOCATION

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

REFERENCED FROM : GOOGLE EARTH PRO

ALASKA DEPARTMENT OF ENVIRONMENTAL
 CONSERVATION CONTAMINATED SITES PROGRAM
 C/O TAMARA CARDONA-MAREK
 810 UNIVERSITY AVENUE
 FAIRBANKS, ALASKA 99709

Report: GROUNDWATER MONITOR EVENT
 ADOT&PF NOME MAINTENANCE FUELING STATION
 AND MARKAIR-NOME

Drawing: NOME MAINTENANCE FUELING STATION SITE DETAIL

Date: December 1, 2011

Project No.
 105.00086.11003
 105.00086.11004

Fig. No.

2



SCALE: 1" = 300'
 WHEN PLOTTED AT 8.5 x 11 PAGE SIZE
 0 300 600 900'



MW-11			
2011 Winter Leach Evaluation (7/5/11)			
DATE	GRO	DRO	BENZENE
	RESULTS IN mg/L		
JUN 2008	0.678	7.4	0.0044
AUG 2008	0.765	2.43	0.00275
JUL 2011	0.0426 J "	2.13	ND (0.000165)

MW-7			
2011 Water Level Elevation (ft): 7.02'			
DATE	GRD	DRO	SENZENE
	RESULTS IN mg/L		
JUN 2008	0.286	2.83	0.5118
SEP 2008	0.825	3.15	0.00000
JUN 2009	ICE PLUG		
AUG 2009	0.160	2.17	0.0163
JUL 2011	0.0071	1.80	0.0003

MW-10			
2011 Water Level Elevation (IG: 7.8'			
DATE	GRO	DRO	BENZENE
	RESULTS IN mg/L		
JUN 2008	<0.100	0.8	0.000004
AUG 2008	ICE PLUG		
JUL 2011	—	MD [0.200] ^	—

MVV-4			
2011 Water Level Elevation (ft): 5.02			
DATE	GRO	DRO	BENZENE
	RESULTS IN mg/L		
JUN 2006	2.27	0.6	0.729
SEP 2006	3.45	12.9	0.0677
JUN 2008	ICE PLUG		
AUG 2008	3.58	28.9	0.0634
JUL 2011	DRY		

MW-6			
2011 Water Level Elevation (ft): Not Sampled			
DATE	GRD	ORD	BENZENE
	RESULTS IN mg/L		
JUN 2005	DRY		
SEP 2005	0.440	0.20	0.00441
JUN 2006	FROZEN		
AUG 2006	FROZEN		
JUL 2011	NOT SAMPLED		

MW-9			
2011 Winter Level Elevation (ft): Not Sampled			
DATE	GRO	DRO	BENZENE
	RESULTS in mg/L		
FROZEN			
JUN 2008			
AUG 2008	<0.100	2.00	<0.00500
JUL 2011	NOT SAMPLED		

MW-5			
2011 Water Level Elevation (ft): 4.7ft			
DATE	GRO	DRO	BENZEN
	RESULTS IN mg/L		
JUN 2005	<0.0900	0.881	<0.005800
SEP 2008	<0.0900	<0.828	<0.005800
JUN 2009	ICE PLUG		
AUG 2009	<0.100	0.415	<0.005800
JUL 2011	NOT SAMPLED		

MW-8			
2011 Winter Level Elevation (ft): 3.55'			
DATE	GRO	DRO	BENZEN
	RESULTS IN mg/L		
JUN 2008	<0.100	1.18	0.00194
AUG 2008	ICE PLUG		
JUL 2011	NOT SAMPLED		

- **MONITORING WELL LOCATION**
- **GRO GASOLINE RANGE ORGANICS**
- **DRO DIESEL RANGE ORGANICS**
- ND **NON-DETECT, METHOD DETECTION LIMIT IS PRESENTED IN BRACKETS**
- J **THE QUANTITTATION IS AN ESTIMATION**
- < **ANALYTE FOUND BELOW THE DETECTION LIMIT LISTED AS RESULT**
- ▼ **DUPPLICATE SAMPLE COLLECTED, HIGHEST RESULT SHOWN**

1. RESULTS GREATER THAN 18 AUG 76, TABLE C, GROUNDWATER CLEANUP LEVEL ARE **BOLD RED**.

2. FIGURE REFERENCED FROM: SHANNON & WILSON, INC., FIG. 1, OCT 2008, FORMER MARFAIR FACILITY REPORT.

**ALASKA DEPARTMENT OF ENVIRONMENTAL
CONSERVATION CONTAMINATED SITES
PROGRAM
C/O TAMARA CARDONA-MAREK
810 UNIVERSITY AVENUE
FAIRBANKS, ALASKA 99709**

Report	GROUNDWATER MONITOR EVENT ADOT&PF NOME MAINTENANCE FUELING STATION AND MARKAIR-NOME
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Drawing
MARKAIR-NOME SITE DETAIL

Date November 7, 2011	Scale 1"=60'	Fig. No. 3
File Name P:\11 Nov 2011\ACCTRY_V12	Project No. 001	

SLR 

THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY. ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

SCALE: 1" = 60'
WHEN PLOTTED AT 11 x 17 PAGE SIZE

APPENDIX A

RESUME OF QUALIFIED INDIVIDUAL

Groundwater Monitoring Report ADOT&PF Nome Maintenance Fueling Station and MarkAir Nome

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONTAMINATED SITES PROGRAM
c/o Tamara Cardona-Marek
610 University Avenue
Fairbanks, Alaska 99709

December 2011

Mr. Siwiec has over 6 years of experience as a geologist including performing environmental site and remedial investigations, especially field sampling techniques; soil, sediment, surface water, groundwater, and panned concentrates sampling; drilling and monitoring well installation and development; and screening and characterizing soil and waste during removal actions. He has also worked with heavy equipment operators during cleanup activities, geologic drill core logging and interpretation (both soil and hard rock); mine modeling and ore body modeling; mineral exploration; underground mine geology and surveying; and experience in both ArcGIS and AutoCAD. Mr. Siwiec also has experience in technical writing.

Mr. Siwiec has experience working with and around heavy machinery both above and below ground. He is experienced in operating all terrain vehicles and snow machines and has extensive experience working around helicopters. He is very comfortable working with contractors at job sites for environmental field work and has experience making decisions in the field.

SELECTED PROJECT EXPERIENCE

Site Investigation / Remediation – Organizing experience by discipline is optional.

- **United States Air Force – Point Lonely SRRS (North Slope, Alaska).** Supported site cleanup work for two consecutive summer field seasons. Assisted in mobilization and demobilization of supplies and equipment to a remote field location. Served as staff scientist (geologist) during excavation of the Old Landfill eroding along the coastline. Worked closely with equipment operators to guide the excavation and removal process. Identified wastes and contaminated soil requiring special handling (treatment or disposal). Performed waste characterization sampling to characterize soil stockpiles. Screened soil during excavation of other contaminated sites and performed confirmation sampling. Conducted groundwater and surface water sampling on site. Assisted in data analysis and reporting.
- **United States Air Force – Site Investigation and Remedial Investigation for Lake Louise Recreation Camp (Lake Louise, Alaska).** Logged drill cores from soil boreholes and sampled soils for laboratory analysis. Installed groundwater monitoring wells. Conducted groundwater and surface water sampling. Worked closely with drillers. Treated petroleum contaminated water on site. Coordinated mobilization and demobilization for project supplies, equipment and personnel.
- **Municipal Light and Power – Plants 1 & 2 (Anchorage, Alaska).** Collected samples from groundwater monitoring wells at Plants 1 and 2. Prepared data reports following sampling.
- **United States Air Force – Barter Island LRRS (Kaktovik, Alaska).** Collected paint samples and concrete samples from hangar. Conducted community interviews regarding landfill history.
- **Army National Guard – CSMS Lower Yard (Anchorage, Alaska).** Assisted in sampling 8-10 groundwater monitoring wells using bladder-type pump.

- **Pioneer Natural Resources – Oooguruk OTP Turbines (North Slope, Alaska).** Performed point-source emissions testing on three gas-turbine stacks.
- **ADOT & PF Tanana Airport – Remediation, Investigation, and Disposal (Tanana, Alaska).** Investigated spill areas using backhoe to trench and PID, sampled soil from known contaminated areas, and disposed of waste drums.
- **United States Air Force – Barter Island LRRS (Kaktovik, Alaska).** Installed and sampled monitoring wells, landfarmed contaminated soil, and used Multiple Increment method to sample landfarm area.
- **Usibelli Coal Mines – Baseline Groundwater and Surface Water Sampling at Wishbone Hill Property (Palmer, Alaska).** Sampled groundwater from wells, read piezometers, sampled surface water, and measured stream flow.
- **Pebble Limited Partnership – Baseline Groundwater Sampling and Monitoring (Iliamna, Alaska).** Conducted groundwater sampling and water level monitoring. Conducted sampling and monitoring of Acid Rock Leachate Drainage project. Conducted monitoring of Westbay monitoring well (4,000 feet deep).

EDUCATION

M.S., Geology; Structure and Tectonics, Northern Arizona University, 2003

B.S., Geology; and B.A., Music, Western Washington University, 2001

ADDITIONAL TRAINING AND CERTIFICATIONS

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training, 2008

8-Hour OSHA Hazardous Waste Operations and Emergency Response Refresher, February 2011

32-Hour MSHA Underground and Surface Miner Training

8-Hour NSTC Unescorted North Slope Safety Orientation

National Ski Patrol Outdoor Emergency Care Technician

CPR, Healthcare Provider-Level

APPENDIX B

**LABORATORY DATA AND QUALITY ASSURANCE
INFORMATION**

**Groundwater Monitoring Report
ADOT&PF Nome Maintenance Fueling Station
and MarkAir Nome**

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONTAMINATED SITES PROGRAM
c/o Tamara Cardona-Marek
610 University Avenue
Fairbanks, Alaska 99709

December 2011



SGS North America Inc.
Alaska Division
Level II Laboratory Data Report

Project: ADEC Nome
Client: SLR Alaska-Anchorage
SGS Work Order: 1113144

Released by:


Alaska Division Project Manager

Carmon Beene
2011.09.07
13:11:19
-08'00'

Contents:

Cover Page
Case Narrative
Final Report Pages
Quality Control Summary Forms
Chain of Custody/Sample Receipt Forms

Note:

Unless otherwise noted, all quality assurance/quality control criteria is in compliance with the standards set forth by the proper regulatory authority, the SGS Quality Assurance Program Plan, and the National Environmental Accreditation Conference.

Case Narrative

Customer: SLRANCH

SLR Alaska-Anchorage

Project: 1113144

ADEC Nome

Refer to the sample receipt form for information on sample condition.

1113144003 PS MW3

AK102 - The pattern is consistent with a weathered middle distillate.

1113144004 PS MW11

AK102 - The pattern is consistent with a weathered middle distillate.

1113144006 PS MW7

AK102 - The pattern is consistent with a weathered middle distillate.

1113144007 PS FUEL 1

8011 - EDB was analyzed by SGS in Wilmington, NC.



Laboratory Analytical Report

Client: **SLR Alaska-Anchorage**
4601 Business Park, Ste K-42
Anchorage, AK 99503

Attn: **Andy Larson**
T: (907)222-1112 F:
alarson@slrcorp.com

Project: **ADEC Nome**

Workorder No.: **1113144**

Certification:

This data package is in compliance with the terms and conditions of the contract, both technically and for completeness, unless otherwise noted on the sample data sheet(s) and/or case narrative. This certification applies only to the tested parameters and the specific sample(s) received at the laboratory. If you have any questions regarding this report, or if we can be of further assistance, please contact your SGS Project Manager.

Carmon Beene

carmon.beene@sgs.com
Project Manager

Contents (Bookmarked in PDF):

Cover Page
Glossary
Sample Summary Forms
Case Narrative
Sample Results Forms
Batch Summary Forms (by method)
Quality Control Summary Forms (by method)
Chain of Custody/Sample Receipt Forms
Attachments (if applicable)

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (http://www.sgs.com/terms_and_conditions.htm), unless other written agreements have been accepted by both parties.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035B, 6010B, 6020, 7470A, 7471B, 8021B, 8081B, 8082A, 8260B, 8270D, 8270D-SIM, 9040B, 9045C, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, the National Environmental Laboratory Accreditation Program and other regulatory authorities. The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV	Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 2xDL)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RL	Reporting Limit
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.
All DRO/RRO analyses are integrated per SOP.



SAMPLE SUMMARY

Print Date: 9/7/2011 1:09 pm

Client Name: SLR Alaska-Anchorage

Project Name: ADEC Nome

Workorder No.: 1113144

Analytical Methods

<u>Method Description</u>	<u>Analytical Method</u>
AK101/8021 Combo.	AK101
AK101/8021 Combo.	SW8021B
BTEX 8021	SW8021B
Diesel Range Organics (W)	AK102
Volatile Organic Compounds (W) FULL	SW8260B

Sample ID Cross Reference

<u>Lab Sample ID</u>	<u>Client Sample ID</u>
1113144001	MW10
1113144002	MW910
1113144003	MW3
1113144004	MW11
1113144005	MW911
1113144006	MW7
1113144007	FUEL 1
1113144008	FUEL91
1113144009	LAB1
1113144010	DAR1
1113144011	Trip Blank
1113144012	Trip Blank



Detectable Results Summary

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW3**

SGS Ref. #: 1113144003

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	1.90	mg/L

Client Sample ID: **MW11**

SGS Ref. #: 1113144004

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.0425J	mg/L
o-Xylene	1.67J	ug/L

Semivolatile Organic Fuels Department

Diesel Range Organics	2.13	mg/L
-----------------------	------	------

Client Sample ID: **MW911**

SGS Ref. #: 1113144005

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.0421J	mg/L
o-Xylene	1.70J	ug/L

Client Sample ID: **MW7**

SGS Ref. #: 1113144006

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.300J	ug/L

Semivolatile Organic Fuels Department

Diesel Range Organics	1.85	mg/L
-----------------------	------	------

Volatile Gas Chromatography/Mass Spectroscopy

Benzene	0.310J	ug/L
Trichlorofluoromethane	57.9	ug/L

Client Sample ID: **LAB1**

SGS Ref. #: 1113144009

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Toluene	11.2	ug/L

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW10**

SGS Ref. #: 1113144001

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	0.532 U	0.851	0.266	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	91.3	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:02

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 940 mL

Prep Extract Vol.: 1 mL

Container ID:1113144001-A

Analyst: MCS

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW910**

SGS Ref. #: 1113144002

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	0.538 U	0.860	0.269	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	86.7	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:12

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 930 mL

Prep Extract Vol.: 1 mL

Container ID:1113144002-A

Analyst: MCS

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW3**

SGS Ref. #: 1113144003

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 17:00

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	1.90	0.842	0.263	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	86.3	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:22

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 950 mL

Prep Extract Vol.: 1 mL

Container ID:1113144003-A

Analyst: MCS



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW11**
SGS Ref. #: 1113144004
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Gasoline Range Organics	0.0425J	0.100	0.0310	mg/L	1	VFC10574	VXX22429	
o-Xylene	1.67J	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94.6	77-115		%	1	VFC10574	VXX22429	
4-Bromofluorobenzene <sur>	112	50-150		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574	Prep Batch: VXX22429	Initial Prep Wt./Vol.: 5 mL
Analytical Method: AK101	Prep Method: SW5030B	Prep Extract Vol.: 5 mL
Analysis Date/Time: 07/18/11 18:33	Prep Date/Time: 07/18/11 08:00	Container ID: 1113144004-A
Dilution Factor: 1		Analyst: EAB

Analytical Batch: VFC10574	Prep Batch: VXX22429	Initial Prep Wt./Vol.: 5 mL
Analytical Method: SW8021B	Prep Method: SW5030B	Prep Extract Vol.: 5 mL
Analysis Date/Time: 07/18/11 18:33	Prep Date/Time: 07/18/11 08:00	Container ID: 1113144004-A
Dilution Factor: 1		Analyst: EAB

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW11**

SGS Ref. #: 1113144004

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	2.13	0.851	0.266	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	88.4	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:32

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 940 mL

Prep Extract Vol.: 1 mL

Container ID:1113144004-J

Analyst: MCS



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW11**

SGS Ref. #: 1113144004

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Hexanone	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
Bromobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromochloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Bromoform	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromomethane	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
Carbon disulfide	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW11**

SGS Ref. #: 1113144004

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Chloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chloroform	0.600 U	1.00	0.300	ug/L	1	VMS12236	VXX22423	
Chloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromomethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Methylene chloride	2.00 U	5.00	1.00	ug/L	1	VMS12236	VXX22423	
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	1	VMS12236	VXX22423	
Naphthalene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Styrene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichlorofluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Vinyl chloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Xylenes (total)	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane-D4 <sur>	97.5	70-120		%	1	VMS12236	VXX22423	
4-Bromofluorobenzene <sur>	103	75-120		%	1	VMS12236	VXX22423	
Toluene-d8 <sur>	96.7	85-120		%	1	VMS12236	VXX22423	

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Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW11**

SGS Ref. #: 1113144004

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Batch Information								
Analytical Batch: VMS12236			Prep Batch: VXX22423				Initial Prep Wt./Vol.: 5 mL	
Analytical Method: SW8260B			Prep Method: SW5030B				Prep Extract Vol.: 5 mL	
Analysis Date/Time: 07/15/11 15:12			Prep Date/Time: 07/15/11 09:00				Container ID:1113144004-D	
Dilution Factor: 1							Analyst: JPI	



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Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW911**
SGS Ref. #: 1113144005
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Gasoline Range Organics	0.0421J	0.100	0.0310	mg/L	1	VFC10574	VXX22429	
o-Xylene	1.70J	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94.4	77-115		%	1	VFC10574	VXX22429	
4-Bromofluorobenzene <sur>	112	50-150		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: AK101
Analysis Date/Time: 07/18/11 18:52
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144005-A
Analyst: EAB

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 18:52
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144005-A
Analyst: EAB



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW911**

SGS Ref. #: 1113144005

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Hexanone	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
Bromobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromochloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Bromoform	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromomethane	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
Carbon disulfide	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW911**

SGS Ref. #: 1113144005

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Chloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chloroform	0.600 U	1.00	0.300	ug/L	1	VMS12236	VXX22423	
Chloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromomethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Methylene chloride	2.00 U	5.00	1.00	ug/L	1	VMS12236	VXX22423	
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	1	VMS12236	VXX22423	
Naphthalene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Styrene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichlorofluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Vinyl chloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Xylenes (total)	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane-D4 <surr>	100	70-120		%	1	VMS12236	VXX22423	
4-Bromofluorobenzene <surr>	106	75-120		%	1	VMS12236	VXX22423	
Toluene-d8 <surr>	99.5	85-120		%	1	VMS12236	VXX22423	

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Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW911**

SGS Ref. #: 1113144005

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 18:40

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Batch Information								
Analytical Batch: VMS12236			Prep Batch: VXX22423				Initial Prep Wt./Vol.: 5 mL	
Analytical Method: SW8260B			Prep Method: SW5030B				Prep Extract Vol.: 5 mL	
Analysis Date/Time: 07/15/11 15:46			Prep Date/Time: 07/15/11 09:00				Container ID:1113144005-D	
Dilution Factor: 1							Analyst: JPI	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW7**
SGS Ref. #: 1113144006
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 21:05

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300J	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94.3	77-115		%	1	VFC10574	VXX22429	
4-Bromofluorobenzene <sur>	107	50-150		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: AK101
Analysis Date/Time: 07/18/11 19:11
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144006-A
Analyst: EAB

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 19:11
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144006-A
Analyst: EAB

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW7**

SGS Ref. #: 1113144006

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 21:05

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	1.85	0.833	0.260	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	91.2	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:42

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 960 mL

Prep Extract Vol.: 1 mL

Container ID:1113144006-J

Analyst: MCS



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW7**

SGS Ref. #: 1113144006

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 21:05

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Hexanone	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
Benzene	0.310J	0.400	0.120	ug/L	1	VMS12236	VXX22423	
Bromobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromochloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Bromoform	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromomethane	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
Carbon disulfide	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW7**

SGS Ref. #: 1113144006

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 21:05

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Chloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chloroform	0.600 U	1.00	0.300	ug/L	1	VMS12236	VXX22423	
Chloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromomethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Methylene chloride	2.00 U	5.00	1.00	ug/L	1	VMS12236	VXX22423	
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	1	VMS12236	VXX22423	
Naphthalene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Styrene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichlorofluoromethane	57.9	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Vinyl chloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Xylenes (total)	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane-D4 <surr>	97.7	70-120		%	1	VMS12236	VXX22423	
4-Bromofluorobenzene <surr>	102	75-120		%	1	VMS12236	VXX22423	
Toluene-d8 <surr>	99.2	85-120		%	1	VMS12236	VXX22423	

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **MW7**

SGS Ref. #: 1113144006

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 21:05

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Batch Information								
Analytical Batch: VMS12236			Prep Batch: VXX22423				Initial Prep Wt./Vol.: 5 mL	
Analytical Method: SW8260B			Prep Method: SW5030B				Prep Extract Vol.: 5 mL	
Analysis Date/Time: 07/15/11 16:21			Prep Date/Time: 07/15/11 09:00				Container ID:1113144006-D	
Dilution Factor: 1							Analyst: JPI	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **FUEL 1**
SGS Ref. #: 1113144007
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 09:55

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	93.8	77-115		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 19:30
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144007-A
Analyst: EAB

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **FUEL 1**

SGS Ref. #: 1113144007

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 09:55

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	0.520 U	0.833	0.260	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	91.8	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 20:52

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 960 mL

Prep Extract Vol.: 1 mL

Container ID:1113144007-G

Analyst: MCS

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **LAB1**
SGS Ref. #: 1113144009
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 10:00

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	11.2	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94.8	77-115		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 19:49
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144009-A
Analyst: EAB

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **LAB1**

SGS Ref. #: 1113144009

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 10:00

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	0.516 U	0.825	0.258	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	90.7	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 21:02

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 970 mL

Prep Extract Vol.: 1 mL

Container ID:1113144009-D

Analyst: MCS



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **DAR1**
SGS Ref. #: 1113144010
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 10:15

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94	77-115		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 20:08
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144010-A
Analyst: EAB

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **DAR1**

SGS Ref. #: 1113144010

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/13/11 10:15

Receipt Date/Time: 07/14/11 08:30

Semivolatile Organic Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Diesel Range Organics	0.520 U	0.833	0.260	mg/L	1	XFC9923	XXX25167	
5a Androstane <sur>	89.5	50-150		%	1	XFC9923	XXX25167	

Batch Information

Analytical Batch: XFC9923

Analytical Method: AK102

Analysis Date/Time: 07/17/11 21:12

Dilution Factor: 1

Prep Batch: XXX25167

Prep Method: SW3520C

Prep Date/Time: 07/15/11 16:00

Initial Prep Wt./Vol.: 960 mL

Prep Extract Vol.: 1 mL

Container ID:1113144010-D

Analyst: MCS



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**
SGS Ref. #: 1113144011
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	95.1	77-115		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 20:45
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144011-A
Analyst: EAB



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**

SGS Ref. #: 1113144011

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Hexanone	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
Bromobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromochloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Bromoform	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromomethane	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
Carbon disulfide	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**
SGS Ref. #: 1113144011
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Chloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chloroform	0.600 U	1.00	0.300	ug/L	1	VMS12236	VXX22423	
Chloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromomethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Methylene chloride	2.00 U	5.00	1.00	ug/L	1	VMS12236	VXX22423	
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	1	VMS12236	VXX22423	
Naphthalene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Styrene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichlorofluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Vinyl chloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Xylenes (total)	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane-D4 <surr>	95.3	70-120		%	1	VMS12236	VXX22423	
4-Bromofluorobenzene <surr>	103	75-120		%	1	VMS12236	VXX22423	
Toluene-d8 <surr>	99.8	85-120		%	1	VMS12236	VXX22423	

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**

SGS Ref. #: 1113144011

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Batch Information								
Analytical Batch: VMS12236			Prep Batch: VXX22423				Initial Prep Wt./Vol.: 5 mL	
Analytical Method: SW8260B			Prep Method: SW5030B				Prep Extract Vol.: 5 mL	
Analysis Date/Time: 07/15/11 14:04			Prep Date/Time: 07/15/11 09:00				Container ID:1113144011-B	
Dilution Factor: 1							Analyst: JPI	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**
SGS Ref. #: 1113144012
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Fuels Department

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Benzene	0.300 U	0.500	0.150	ug/L	1	VFC10574	VXX22429	
Ethylbenzene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
o-Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
Toluene	1.24 U	2.00	0.620	ug/L	1	VFC10574	VXX22429	
1,4-Difluorobenzene <sur>	94.9	77-115		%	1	VFC10574	VXX22429	

Batch Information

Analytical Batch: VFC10574
Analytical Method: SW8021B
Analysis Date/Time: 07/18/11 21:04
Dilution Factor: 1

Prep Batch: VXX22429
Prep Method: SW5030B
Prep Date/Time: 07/18/11 08:00

Initial Prep Wt./Vol.: 5 mL
Prep Extract Vol.: 5 mL
Container ID: 1113144012-A
Analyst: EAB



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**
SGS Ref. #: 1113144012
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
2-Hexanone	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	1	VMS12236	VXX22423	
Benzene	0.240 U	0.400	0.120	ug/L	1	VMS12236	VXX22423	
Bromobenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromochloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Bromoform	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Bromomethane	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
Carbon disulfide	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chlorobenzene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	



SLR Alaska-Anchorage

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**
SGS Ref. #: 1113144012
Project ID: ADEC Nome
Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical</u> <u>Batch</u>	<u>Prep</u> <u>Batch</u>	<u>Qualifiers</u>
Chloroethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Chloroform	0.600 U	1.00	0.300	ug/L	1	VMS12236	VXX22423	
Chloromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	1	VMS12236	VXX22423	
Dibromomethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Ethylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Methylene chloride	2.00 U	5.00	1.00	ug/L	1	VMS12236	VXX22423	
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	1	VMS12236	VXX22423	
Naphthalene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
o-Xylene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
P & M -Xylene	1.24 U	2.00	0.620	ug/L	1	VMS12236	VXX22423	
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Styrene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Toluene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichloroethene	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Trichlorofluoromethane	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Vinyl chloride	0.620 U	1.00	0.310	ug/L	1	VMS12236	VXX22423	
Xylenes (total)	1.88 U	3.00	0.940	ug/L	1	VMS12236	VXX22423	
1,2-Dichloroethane-D4 <surr>	97.7	70-120		%	1	VMS12236	VXX22423	
4-Bromofluorobenzene <surr>	103	75-120		%	1	VMS12236	VXX22423	
Toluene-d8 <surr>	101	85-120		%	1	VMS12236	VXX22423	

**SLR Alaska-Anchorage**

Print Date: 9/7/2011 1:09 pm

Client Sample ID: **Trip Blank**

SGS Ref. #: 1113144012

Project ID: ADEC Nome

Matrix: Water (Surface, Eff., Ground)

Collection Date/Time: 07/12/11 14:10

Receipt Date/Time: 07/14/11 08:30

Volatile Gas Chromatography/Mass Spectroscopy

<u>Parameter</u>	<u>Result</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Analytical Batch</u>	<u>Prep Batch</u>	<u>Qualifiers</u>
Batch Information								
Analytical Batch: VMS12236			Prep Batch: VXX22423				Initial Prep Wt./Vol.: 5 mL	
Analytical Method: SW8260B			Prep Method: SW5030B				Prep Extract Vol.: 5 mL	
Analysis Date/Time: 07/15/11 13:30			Prep Date/Time: 07/15/11 09:00				Container ID:1113144012-B	
Dilution Factor: 1							Analyst: JPI	



SGS Ref.# 1038065 Method Blank
Client Name SLR Alaska-Anchorage
Project Name/# ADEC Nome
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/07/2011 13:09
Prep Batch XXX25167
Method SW3520C
Date 07/15/2011

QC results affect the following production samples:

1113144001, 1113144002, 1113144003, 1113144004, 1113144006, 1113144007, 1113144009, 1113144010

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Semivolatile Organic Fuels Department

Diesel Range Organics	0.500 U	0.800	0.250	mg/L	07/17/11
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Surrogates

5a Androstane <surr>	89.7	60-120		%	07/17/11
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Batch XFC9923

Method AK102

Instrument HP 6890 Series II FID SV D R



SGS Ref.#	1038180	Method Blank	Printed Date/Time	09/07/2011 13:09
Client Name	SLR Alaska-Anchorage		Prep	Batch
Project Name/#	ADEC Nome			Method
Matrix	Water (Surface, Eff., Ground)			Date
				SW5030B
				07/15/2011

QC results affect the following production samples:
1113144004, 1113144005, 1113144006, 1113144011, 1113144012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy



SGS Ref.# 1038180 Method Blank
Client Name SLR Alaska-Anchorage
Project Name/# ADEC Nome
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/07/2011 13:09
Prep Batch VXX22423
Method SW5030B
Date 07/15/2011

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

1,1,1,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	07/15/11
1,1,1-Trichloroethane	0.620 U	1.00	0.310	ug/L	07/15/11
1,1,2,2-Tetrachloroethane	0.300 U	0.500	0.150	ug/L	07/15/11
1,1,2-Trichloroethane	0.620 U	1.00	0.310	ug/L	07/15/11
1,1-Dichloroethane	0.620 U	1.00	0.310	ug/L	07/15/11
1,1-Dichloroethene	0.620 U	1.00	0.310	ug/L	07/15/11
1,1-Dichloropropene	0.620 U	1.00	0.310	ug/L	07/15/11
1,2,3-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,2,3-Trichloropropane	0.620 U	1.00	0.310	ug/L	07/15/11
1,2,4-Trichlorobenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,2,4-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,2-Dibromo-3-chloropropane	1.24 U	2.00	0.620	ug/L	07/15/11
1,2-Dibromoethane	0.620 U	1.00	0.310	ug/L	07/15/11
1,2-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,2-Dichloroethane	0.300 U	0.500	0.150	ug/L	07/15/11
1,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	07/15/11
1,3,5-Trimethylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,3-Dichlorobenzene	0.620 U	1.00	0.310	ug/L	07/15/11
1,3-Dichloropropane	0.240 U	0.400	0.120	ug/L	07/15/11
1,4-Dichlorobenzene	0.300 U	0.500	0.150	ug/L	07/15/11
2,2-Dichloropropane	0.620 U	1.00	0.310	ug/L	07/15/11
2-Butanone (MEK)	6.20 U	10.0	3.10	ug/L	07/15/11
2-Chlorotoluene	0.620 U	1.00	0.310	ug/L	07/15/11
2-Hexanone	6.20 U	10.0	3.10	ug/L	07/15/11
4-Chlorotoluene	0.620 U	1.00	0.310	ug/L	07/15/11
4-Isopropyltoluene	0.620 U	1.00	0.310	ug/L	07/15/11
4-Methyl-2-pentanone (MIBK)	6.20 U	10.0	3.10	ug/L	07/15/11
Benzene	0.240 U	0.400	0.120	ug/L	07/15/11
Bromobenzene	0.620 U	1.00	0.310	ug/L	07/15/11
Bromochloromethane	0.620 U	1.00	0.310	ug/L	07/15/11
Bromodichloromethane	0.300 U	0.500	0.150	ug/L	07/15/11
Bromoform	0.620 U	1.00	0.310	ug/L	07/15/11
Bromomethane	1.88 U	3.00	0.940	ug/L	07/15/11
Carbon disulfide	1.24 U	2.00	0.620	ug/L	07/15/11
Carbon tetrachloride	0.620 U	1.00	0.310	ug/L	07/15/11
Chlorobenzene	0.300 U	0.500	0.150	ug/L	07/15/11
Chloroethane	0.620 U	1.00	0.310	ug/L	07/15/11
Chloroform	0.600 U	1.00	0.300	ug/L	07/15/11
Chloromethane	0.620 U	1.00	0.310	ug/L	07/15/11



SGS Ref.# 1038180 Method Blank
Client Name SLR Alaska-Anchorage
Project Name/# ADEC Nome
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/07/2011 13:09
Prep Batch VXX22423
Method SW5030B
Date 07/15/2011

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

cis-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	07/15/11
cis-1,3-Dichloropropene	0.300 U	0.500	0.150	ug/L	07/15/11
Dibromochloromethane	0.300 U	0.500	0.150	ug/L	07/15/11
Dibromomethane	0.620 U	1.00	0.310	ug/L	07/15/11
Dichlorodifluoromethane	0.620 U	1.00	0.310	ug/L	07/15/11
Ethylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
Hexachlorobutadiene	0.620 U	1.00	0.310	ug/L	07/15/11
Isopropylbenzene (Cumene)	0.620 U	1.00	0.310	ug/L	07/15/11
Methylene chloride	2.00 U	5.00	1.00	ug/L	07/15/11
Methyl-t-butyl ether	3.00 U	5.00	1.50	ug/L	07/15/11
Naphthalene	1.24 U	2.00	0.620	ug/L	07/15/11
n-Butylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
n-Propylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
o-Xylene	0.620 U	1.00	0.310	ug/L	07/15/11
P & M -Xylene	1.24 U	2.00	0.620	ug/L	07/15/11
sec-Butylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
Styrene	0.620 U	1.00	0.310	ug/L	07/15/11
tert-Butylbenzene	0.620 U	1.00	0.310	ug/L	07/15/11
Tetrachloroethene	0.620 U	1.00	0.310	ug/L	07/15/11
Toluene	0.620 U	1.00	0.310	ug/L	07/15/11
trans-1,2-Dichloroethene	0.620 U	1.00	0.310	ug/L	07/15/11
trans-1,3-Dichloropropene	0.620 U	1.00	0.310	ug/L	07/15/11
Trichloroethene	0.620 U	1.00	0.310	ug/L	07/15/11
Trichlorofluoromethane	0.620 U	1.00	0.310	ug/L	07/15/11
Vinyl chloride	0.620 U	1.00	0.310	ug/L	07/15/11
Xylenes (total)	1.88 U	3.00	0.940	ug/L	07/15/11

Surrogates

1,2-Dichloroethane-D4 <surr>	100	70-120	%	07/15/11
4-Bromofluorobenzene <surr>	101	75-120	%	07/15/11
Toluene-d8 <surr>	101	85-120	%	07/15/11

Batch VMS12236
Method SW8260B
Instrument HP 5890 Series II MS1 VJA



SGS Ref.# 1038508 Method Blank
Client Name SLR Alaska-Anchorage
Project Name/# ADEC Nome
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/07/2011 13:09
Prep Batch VXX22429
Method SW5030B
Date 07/18/2011

QC results affect the following production samples:

1113144004, 1113144005, 1113144006, 1113144007, 1113144009, 1113144010, 1113144011, 1113144012

Parameter	Results	LOQ/CL	DL	Units	Analysis Date
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Volatile Fuels Department

Gasoline Range Organics	0.0620 U	0.100	0.0310	mg/L	07/18/11
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Surrogates

4-Bromofluorobenzene <surr>	111	50-150		%	07/18/11
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Batch VFC10574

Method AK101

Instrument HP 5890 Series II PID+FID VCA

Benzene	0.300 U	0.500	0.150	ug/L	07/18/11
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Ethylbenzene	1.24 U	2.00	0.620	ug/L	07/18/11
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o-Xylene	1.24 U	2.00	0.620	ug/L	07/18/11
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P & M -Xylene	1.24 U	2.00	0.620	ug/L	07/18/11
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Toluene	1.24 U	2.00	0.620	ug/L	07/18/11
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Surrogates

1,4-Difluorobenzene <surr>	94.7	77-115		%	07/18/11
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Batch VFC10574

Method SW8021B

Instrument HP 5890 Series II PID+FID VCA



SGS Ref.#	1038066	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038067	Lab Control Sample Duplicate	Prep	Batch	XXX25167
Client Name	SLR Alaska-Anchorage		Method	SW3520C	
Project Name/#	ADEC Nome		Date	07/15/2011	
Matrix	Water (Surface, Eff., Ground)				

QC results affect the following production samples:

1113144001, 1113144002, 1113144003, 1113144004, 1113144006, 1113144007, 1113144009, 1113144010

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Semivolatile Organic Fuels Department

Diesel Range Organics	LCS	4.68	94	(75-125)		5 mg/L	07/17/2011
	LCSD	4.31	86		8	(< 20)	5 mg/L 07/17/2011

Surrogates

5a Androstane <surr>	LCS		93	(60-120)			07/17/2011
	LCSD		91		2		07/17/2011

Batch	XFC9923
Method	AK102
Instrument	HP 6890 Series II FID SV D R



SGS Ref.#	1038181	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038182	Lab Control Sample Duplicate	Prep	Batch	VXX22423
Client Name		SLR Alaska-Anchorage		Method	SW5030B
Project Name/#		ADEC Nome		Date	07/15/2011
Matrix		Water (Surface, Eff., Ground)			

QC results affect the following production samples:
1113144004, 1113144005, 1113144006, 1113144011, 1113144012

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

SGS Ref.# 1038181 Lab Control Sample
 1038182 Lab Control Sample Duplicate
 Client Name SLR Alaska-Anchorage
 Project Name/# ADEC Nome
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 09/07/2011 13:09
 Prep Batch VXX22423
 Method SW5030B
 Date 07/15/2011

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>								
1,1,1,2-Tetrachloroethane	LCS	30.1	100	(80-130)			30 ug/L	07/15/2011
	LCSD	30.0	100		0	(< 20)	30 ug/L	07/15/2011
1,1,1-Trichloroethane	LCS	30.5	102	(65-130)			30 ug/L	07/15/2011
	LCSD	28.7	96		6	(< 20)	30 ug/L	07/15/2011
1,1,2,2-Tetrachloroethane	LCS	31.7	106	(65-130)			30 ug/L	07/15/2011
	LCSD	31.6	105		0	(< 20)	30 ug/L	07/15/2011
1,1,2-Trichloroethane	LCS	30.2	101	(75-125)			30 ug/L	07/15/2011
	LCSD	29.5	98		3	(< 20)	30 ug/L	07/15/2011
1,1-Dichloroethane	LCS	28.8	96	(70-135)			30 ug/L	07/15/2011
	LCSD	27.7	92		4	(< 20)	30 ug/L	07/15/2011
1,1-Dichloroethene	LCS	28.8	96	(70-130)			30 ug/L	07/15/2011
	LCSD	27.8	93		4	(< 20)	30 ug/L	07/15/2011
1,1-Dichloropropene	LCS	31.0	103	(75-130)			30 ug/L	07/15/2011
	LCSD	29.2	98		6	(< 20)	30 ug/L	07/15/2011
1,2,3-Trichlorobenzene	LCS	31.3	104	(55-140)			30 ug/L	07/15/2011
	LCSD	31.2	104		1	(< 20)	30 ug/L	07/15/2011
1,2,3-Trichloropropane	LCS	29.8	99	(75-125)			30 ug/L	07/15/2011
	LCSD	30.4	101		2	(< 20)	30 ug/L	07/15/2011
1,2,4-Trichlorobenzene	LCS	31.2	104	(65-135)			30 ug/L	07/15/2011
	LCSD	30.8	103		1	(< 20)	30 ug/L	07/15/2011
1,2,4-Trimethylbenzene	LCS	30.5	102	(75-130)			30 ug/L	07/15/2011
	LCSD	29.7	99		3	(< 20)	30 ug/L	07/15/2011
1,2-Dibromo-3-chloropropane	LCS	31.3	104	(50-130)			30 ug/L	07/15/2011
	LCSD	31.0	103		1	(< 20)	30 ug/L	07/15/2011
1,2-Dibromoethane	LCS	30.5	102	(80-120)			30 ug/L	07/15/2011
	LCSD	30.4	101		0	(< 20)	30 ug/L	07/15/2011
1,2-Dichlorobenzene	LCS	28.3	94	(70-120)			30 ug/L	07/15/2011
	LCSD	28.1	94		1	(< 20)	30 ug/L	07/15/2011

SGS Ref.#	1038181	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038182	Lab Control Sample Duplicate	Prep	Batch	VXX22423
Client Name	SLR Alaska-Anchorage		Method	SW5030B	
Project Name/#	ADEC Nome		Date	07/15/2011	
Matrix	Water (Surface, Eff., Ground)				

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

1,2-Dichloroethane	LCS	29.5	98	(70-130)			30 ug/L	07/15/2011
	LCSD	28.7	96		3	(< 20)	30 ug/L	07/15/2011
1,2-Dichloropropane	LCS	30.9	103	(75-125)			30 ug/L	07/15/2011
	LCSD	30.3	101		2	(< 20)	30 ug/L	07/15/2011
1,3,5-Trimethylbenzene	LCS	30.4	101	(75-130)			30 ug/L	07/15/2011
	LCSD	29.7	99		2	(< 20)	30 ug/L	07/15/2011
1,3-Dichlorobenzene	LCS	30.3	101	(75-125)			30 ug/L	07/15/2011
	LCSD	29.7	99		2	(< 20)	30 ug/L	07/15/2011
1,3-Dichloropropane	LCS	30.2	101	(75-125)			30 ug/L	07/15/2011
	LCSD	30.1	100		0	(< 20)	30 ug/L	07/15/2011
1,4-Dichlorobenzene	LCS	29.7	99	(75-125)			30 ug/L	07/15/2011
	LCSD	28.7	96		4	(< 20)	30 ug/L	07/15/2011
2,2-Dichloropropane	LCS	30.4	101	(70-135)			30 ug/L	07/15/2011
	LCSD	28.9	96		5	(< 20)	30 ug/L	07/15/2011
2-Butanone (MEK)	LCS	97.9	109	(30-150)			90 ug/L	07/15/2011
	LCSD	88.3	98		10	(< 20)	90 ug/L	07/15/2011
2-Chlorotoluene	LCS	30.0	100	(75-125)			30 ug/L	07/15/2011
	LCSD	29.1	97		3	(< 20)	30 ug/L	07/15/2011
2-Hexanone	LCS	102	114	(55-130)			90 ug/L	07/15/2011
	LCSD	97.8	109		5	(< 20)	90 ug/L	07/15/2011
4-Chlorotoluene	LCS	29.4	98	(75-130)			30 ug/L	07/15/2011
	LCSD	29.4	98		0	(< 20)	30 ug/L	07/15/2011
4-Isopropyltoluene	LCS	30.6	102	(75-130)			30 ug/L	07/15/2011
	LCSD	30.2	101		1	(< 20)	30 ug/L	07/15/2011
4-Methyl-2-pentanone (MIBK)	LCS	92.9	103	(60-135)			90 ug/L	07/15/2011
	LCSD	88.8	99		4	(< 20)	90 ug/L	07/15/2011
Benzene	LCS	28.7	96	(80-120)			30 ug/L	07/15/2011



SGS Ref.#	1038181	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038182	Lab Control Sample Duplicate	Prep	Batch	VXX22423
Client Name	SLR Alaska-Anchorage		Method	SW5030B	
Project Name/#	ADEC Nome		Date	07/15/2011	
Matrix	Water (Surface, Eff., Ground)				

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>								
	LCSD	27.4	91		5	(< 20)	30 ug/L	07/15/2011
Bromobenzene	LCS	28.9	96	(75-125)			30 ug/L	07/15/2011
	LCSD	27.9	93		4	(< 20)	30 ug/L	07/15/2011
Bromochloromethane	LCS	29.4	98	(65-130)			30 ug/L	07/15/2011
	LCSD	28.0	93		5	(< 20)	30 ug/L	07/15/2011
Bromodichloromethane	LCS	29.1	97	(75-120)			30 ug/L	07/15/2011
	LCSD	27.9	93		4	(< 20)	30 ug/L	07/15/2011
Bromoform	LCS	30.9	103	(70-130)			30 ug/L	07/15/2011
	LCSD	29.3	98		5	(< 20)	30 ug/L	07/15/2011
Bromomethane	LCS	27.9	93	(30-145)			30 ug/L	07/15/2011
	LCSD	27.3	91		2	(< 20)	30 ug/L	07/15/2011
Carbon disulfide	LCS	42.7	95	(35-160)			45 ug/L	07/15/2011
	LCSD	41.5	92		3	(< 20)	45 ug/L	07/15/2011
Carbon tetrachloride	LCS	30.8	103	(65-140)			30 ug/L	07/15/2011
	LCSD	28.6	95		7	(< 20)	30 ug/L	07/15/2011
Chlorobenzene	LCS	28.3	94	(80-120)			30 ug/L	07/15/2011
	LCSD	27.8	93		2	(< 20)	30 ug/L	07/15/2011
Chloroethane	LCS	29.7	99	(60-135)			30 ug/L	07/15/2011
	LCSD	28.9	96		3	(< 20)	30 ug/L	07/15/2011
Chloroform	LCS	27.8	93	(65-135)			30 ug/L	07/15/2011
	LCSD	26.0	87		7	(< 20)	30 ug/L	07/15/2011
Chloromethane	LCS	26.4	88	(40-125)			30 ug/L	07/15/2011
	LCSD	26.5	88		0	(< 20)	30 ug/L	07/15/2011
cis-1,2-Dichloroethene	LCS	29.1	97	(70-125)			30 ug/L	07/15/2011
	LCSD	27.1	90		7	(< 20)	30 ug/L	07/15/2011
cis-1,3-Dichloropropene	LCS	31.9	106	(70-130)			30 ug/L	07/15/2011
	LCSD	30.6	102		4	(< 20)	30 ug/L	07/15/2011



SGS Ref.#	1038181	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038182	Lab Control Sample Duplicate	Prep	Batch	VXX22423
Client Name	SLR Alaska-Anchorage		Method	SW5030B	
Project Name/#	ADEC Nome		Date	07/15/2011	
Matrix	Water (Surface, Eff., Ground)				

Parameter		QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>								
Dibromochloromethane	LCS	30.0	100	(60-135)			30 ug/L	07/15/2011
	LCSD	29.1	97		3	(< 20)	30 ug/L	07/15/2011
Dibromomethane	LCS	30.4	101	(75-125)			30 ug/L	07/15/2011
	LCSD	28.4	95		7	(< 20)	30 ug/L	07/15/2011
Dichlorodifluoromethane	LCS	27.6	92	(30-155)			30 ug/L	07/15/2011
	LCSD	26.0	87		6	(< 20)	30 ug/L	07/15/2011
Ethylbenzene	LCS	29.1	97	(75-125)			30 ug/L	07/15/2011
	LCSD	28.5	95		2	(< 20)	30 ug/L	07/15/2011
Hexachlorobutadiene	LCS	31.0	103	(50-140)			30 ug/L	07/15/2011
	LCSD	29.8	100		4	(< 20)	30 ug/L	07/15/2011
Isopropylbenzene (Cumene)	LCS	29.7	99	(75-125)			30 ug/L	07/15/2011
	LCSD	29.0	97		2	(< 20)	30 ug/L	07/15/2011
Methylene chloride	LCS	28.4	95	(55-140)			30 ug/L	07/15/2011
	LCSD	27.5	92		3	(< 20)	30 ug/L	07/15/2011
Methyl-t-butyl ether	LCS	45.9	102	(65-125)			45 ug/L	07/15/2011
	LCSD	44.3	98		4	(< 20)	45 ug/L	07/15/2011
Naphthalene	LCS	32.8	109	(55-140)			30 ug/L	07/15/2011
	LCSD	32.6	109		1	(< 20)	30 ug/L	07/15/2011
n-Butylbenzene	LCS	32.1	107	(70-135)			30 ug/L	07/15/2011
	LCSD	31.7	106		1	(< 20)	30 ug/L	07/15/2011
n-Propylbenzene	LCS	29.6	99	(70-130)			30 ug/L	07/15/2011
	LCSD	29.0	97		2	(< 20)	30 ug/L	07/15/2011
o-Xylene	LCS	29.2	97	(80-120)			30 ug/L	07/15/2011
	LCSD	29.2	97		0	(< 20)	30 ug/L	07/15/2011
P & M -Xylene	LCS	59.4	99	(75-130)			60 ug/L	07/15/2011
	LCSD	57.9	97		2	(< 20)	60 ug/L	07/15/2011
sec-Butylbenzene	LCS	30.7	102	(70-125)			30 ug/L	07/15/2011
	LCSD	30.2	101		2	(< 20)	30 ug/L	07/15/2011

SGS Ref.#	1038181 Lab Control Sample	Printed Date/Time	09/07/2011 13:09
	1038182 Lab Control Sample Duplicate	Prep	VXX22423
Client Name	SLR Alaska-Anchorage	Batch	SW5030B
Project Name/#	ADEC Nome	Method	
Matrix	Water (Surface, Eff., Ground)	Date	07/15/2011

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Styrene	LCS	29.6	99	(65-135)			30 ug/L	07/15/2011
	LCSD	29.4	98		1	(< 20)	30 ug/L	07/15/2011
tert-Butylbenzene	LCS	29.9	100	(70-130)			30 ug/L	07/15/2011
	LCSD	29.2	98		2	(< 20)	30 ug/L	07/15/2011
Tetrachloroethene	LCS	29.7	99	(45-150)			30 ug/L	07/15/2011
	LCSD	29.1	97		2	(< 20)	30 ug/L	07/15/2011
Toluene	LCS	28.3	94	(75-120)			30 ug/L	07/15/2011
	LCSD	28.2	94		0	(< 20)	30 ug/L	07/15/2011
trans-1,2-Dichloroethene	LCS	29.3	98	(60-140)			30 ug/L	07/15/2011
	LCSD	27.3	91		7	(< 20)	30 ug/L	07/15/2011
trans-1,3-Dichloropropene	LCS	30.1	100	(55-140)			30 ug/L	07/15/2011
	LCSD	31.1	104		3	(< 20)	30 ug/L	07/15/2011
Trichloroethene	LCS	29.0	97	(70-125)			30 ug/L	07/15/2011
	LCSD	28.0	93		3	(< 20)	30 ug/L	07/15/2011
Trichlorofluoromethane	LCS	28.4	95	(60-145)			30 ug/L	07/15/2011
	LCSD	27.3	91		4	(< 20)	30 ug/L	07/15/2011
Vinyl chloride	LCS	27.8	93	(50-145)			30 ug/L	07/15/2011
	LCSD	26.8	89		4	(< 20)	30 ug/L	07/15/2011
Xylenes (total)	LCS	88.6	98	(80-120)			90 ug/L	07/15/2011
	LCSD	87.1	97		2	(< 20)	90 ug/L	07/15/2011

Surrogates

1,2-Dichloroethane-D4 <surr>	LCS		99	(70-120)				07/15/2011
	LCSD		95		4			07/15/2011
4-Bromofluorobenzene <surr>	LCS		99	(75-120)				07/15/2011
	LCSD		103		4			07/15/2011
Toluene-d8 <surr>	LCS		101	(85-120)				07/15/2011
	LCSD		100		0			07/15/2011



SGS Ref.#	1038181	Lab Control Sample	Printed Date/Time	09/07/2011	13:09
	1038182	Lab Control Sample Duplicate	Prep	Batch	VXX22423
Client Name	SLR Alaska-Anchorage		Method	SW5030B	
Project Name/#	ADEC Nome		Date	07/15/2011	
Matrix	Water (Surface, Eff., Ground)				

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Gas Chromatography/Mass Spectroscopy

Batch	VMS12236
Method	SW8260B
Instrument	HP 5890 Series II MS1 VJA



SGS Ref.#	1038509 Lab Control Sample	Printed Date/Time	09/07/2011 13:09
	1038510 Lab Control Sample Duplicate	Prep	VXX22429
Client Name	SLR Alaska-Anchorage	Batch	SW5030B
Project Name/#	ADEC Nome	Method	
Matrix	Water (Surface, Eff., Ground)	Date	07/18/2011

QC results affect the following production samples:

1113144004, 1113144005, 1113144006, 1113144007, 1113144009, 1113144010, 1113144011, 1113144012

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Fuels Department

Benzene	LCS	106	106	(80-120)			100 ug/L	07/18/2011
	LCSD	104	104		2	(< 20)	100 ug/L	07/18/2011
Ethylbenzene	LCS	110	110	(75-125)			100 ug/L	07/18/2011
	LCSD	107	107		3	(< 20)	100 ug/L	07/18/2011
o-Xylene	LCS	108	108	(80-120)			100 ug/L	07/18/2011
	LCSD	105	105		3	(< 20)	100 ug/L	07/18/2011
P & M -Xylene	LCS	218	109	(75-130)			200 ug/L	07/18/2011
	LCSD	212	106		3	(< 20)	200 ug/L	07/18/2011
Toluene	LCS	107	107	(75-120)			100 ug/L	07/18/2011
	LCSD	105	105		1	(< 20)	100 ug/L	07/18/2011

Surrogates

1,4-Difluorobenzene <surr>	LCS		100	(77-115)				07/18/2011
	LCSD		101		0			07/18/2011

Batch	VFC10574
Method	SW8021B
Instrument	HP 5890 Series II PID+FID VCA



SGS Ref.#	1038511 Lab Control Sample	Printed Date/Time	09/07/2011 13:09
	1038512 Lab Control Sample Duplicate	Prep	Batch VXX22429
Client Name	SLR Alaska-Anchorage	Method	SW5030B
Project Name/#	ADEC Nome	Date	07/18/2011
Matrix	Water (Surface, Eff., Ground)		

QC results affect the following production samples:

1113144004, 1113144005, 1113144006, 1113144007, 1113144009, 1113144010, 1113144011, 1113144012

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
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Volatile Fuels Department

Gasoline Range Organics	LCS	1.02	102	(60-120)		1.00 mg/L	07/18/2011
	LCSD	1.00	100		2	(< 20)	1.00 mg/L 07/18/2011

Surrogates

4-Bromofluorobenzene <surr>	LCS		115	(50-150)			07/18/2011
	LCSD		118		3		07/18/2011

Batch	VFC10574
Method	AK101
Instrument	HP 5890 Series II PID+FID VCA



1113144

**America Inc.**
ISTUDY RECORD

Locations Nationwide

- Alaska
- Maryland
- New Jersey
- North Carolina
- West Virginia
- Kentucky

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CLIENT: SLR Consulting		PHONE NO: 907-722-1112		SGS Reference #:		page 1 of 2	
CONTACT: Andy Larson		PROJECT/ PWSID/ PERMIT#:		Analysis Required		Preservatives Used	
PROJECT NAME: ADEC Nome		EMAIL: alarson@slrconsulting.com		③			
REPORTS TO: Andy Larson		QUOTE #:					
INVOICE TO: alarson@slrconsulting.com		P.O. # 105,00065,11003					
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	# CONTAINERS	SAMPLE TYPE C= COMP G= GRAB MI= Multi Incremental Samples	REMARKS/ LOC ID
① A-B	MW10	7/12/11	1410	W	2	GRD AK102	GRD AK101
②	MW910	7/12/11	1410	W	2		BTEX 8021B
③	MW3	7/12/11	1700	W	2		VOC 8021B
④ A-K	MW11	7/12/11	1840	W	11		FDB 8011
⑤ A-I	MW911	7/12/11	1840	W	9		
⑥ A-K	MW7	7/12/11	2105	W	11		
⑦ A-H	FUEL1	7/13/11	955	W	8		
⑧ A-C	FUEL91	7/13/11	955	W	3		
⑨ A-E	LAB1	7/13/11	1000	W	5		
⑩ A-E	DAR1	7/13/11	1015	W	5		
Collected/Relinquished By: (1) Benjamin Swire		Date	Time	Received By:	Data Deliverable Requirements: Excel Compatible		
Relinquished By: (2)		Date	Time	Received By:	Requested Turnaround Time and/or Special Instructions: Standard #1 29 201		
Relinquished By: (3)		Date	Time	Received By:	Temperature Blank °C: 102.1 203.1 or Ambient [1]		
Relinquished By: (4)		Date	Time	Received For Laboratory By: Caron Beero	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT (See attached Sample Receipt Form)		



1113144



Locations Nationwide

- Alaska
- New Jersey
- North Carolina
- West Virginia
- Maryland
- New York
- Indiana
- Kentucky

www.us.sgs.com

1	CLIENT: SLR Consulting	PHONE NO: 907-222-1112	PROJECT/ PWSID/ PERMIT #:	EMAIL: alarson@slrconsulting.com	QUOTE #:
2	CONTACT: Andy Larson	PROJECT NAME: ADEC Nome	REPORTS TO: Andy Larson	INVOICE TO: Andy Larson	alarson@slrconsulting.com
3	COMP. #: 105.00005.11003				

[illegible]



SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No <u>N/A</u>	
Temperature blank compliant* (i.e., 0-6°C after correction factor)? * Note: Exemption permitted for chilled samples collected less than 8 hours ago.	<u>Yes</u> No N/A	
Cooler ID: <u>1</u> @ <u>2.9</u> w/ Therm.ID: <u>101</u> Cooler ID: <u>2</u> @ <u>3.1</u> w/ Therm.ID: <u>202</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Note: If non-compliant, use form FS-0029 to document affected samples/analyses. If samples are received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled."	<u>Yes</u> No N/A	
If temperature(s) <0°C, were all sample containers ice free?	Yes No <u>N/A</u>	
Delivery method (specify all that apply): USPS Alert Courier Road Runner <u>Client</u> Lynden Carlile ERA <u>AK Air</u> FedEx UPS NAC PenAir Other: _____ → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	Note airbill/tracking # See Attached or N/A Yes No N/A	
→ For samples received with payment, note amount (\$) and cash / check / CC (circle one). → For samples received in FBKS, ANCH staff will verify all criteria are reviewed.		SRF Initiated by: <u>CHS</u> N/A
Do samples match COC* (i.e., sample IDs, dates/times collected)? * Note: Exemption permitted if times differ <1hr; in which case, use times on COC.	<u>Yes</u> No N/A	
Were analyses requested unambiguous?	<u>Yes</u> No N/A	
Were samples in good condition (no leaks/cracks/breakage)? Packing material used (specify all that apply): <u>Bubble Wrap</u> Separate plastic bags Vermiculite Other: _____	<u>Yes</u> No N/A	
Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)?	<u>Yes</u> No N/A	
Were all soil VOAs field extracted with MeOH+BFB?	Yes No <u>N/A</u>	
Were the bottles provided by SGS? (Note apparent exceptions.)	<u>Yes</u> No N/A	
Were proper containers (type/mass/volume/preservative*) used? * Note: Exemption permitted for waters to be analyzed for metals.	<u>Yes</u> No N/A	
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<u>Yes</u> No N/A	
For special handling (e.g., "MI" or foreign soils, lab filter, limited volume, Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	<u>Yes</u> No <u>N/A</u>	
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was pH verified and compliant? If pH was adjusted, were bottles flagged (i.e., stickers)?	<u>Yes</u> No N/A Yes No <u>N/A</u>	
For RUSH/SHORT Hold Time or site-specific QC (e.g., BMS/BMSD/BDUP) samples, were the COC & bottles flagged (e.g., stickers) accordingly? For RUSH/SHORT HT, was email sent?	Yes No <u>N/A</u> Yes No <u>N/A</u>	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	Yes No <u>N/A</u>	SRF Completed by: <u>SAH</u> PM = _____ N/A
Was PEER REVIEW of sample numbering/labeling completed (i.e., compare WO# on containers to COC, unique lab ID on each container, LIMS container labels used)?	<u>Yes</u> No N/A	Peer Reviewed by: <u>SAH</u>
Was selection of "Bill to" client PEER REVIEWed?	Yes No <u>N/A</u>	Metrics: <u>7/14/11</u>
Additional notes (if applicable):		

Note to Client: Any "no" circled above indicates non-compliance with standard procedures and may impact data quality.

Laboratory Report of Analysis

To: Julie Shumway
SGS ENVIRONMENTAL - AK
200 W. Potter Dr.
Anchorage, AK 99518
US

Report Number: **31101908**

Client Project: **1113144**


Dear Julie Shumway,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Barbara A. Hager at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.



Digitally signed by Barbara A. Hager
DN: CN = Barbara A. Hager, C = US, O = SGS Wilmington, NC, OU =
Project Manager
Date: 2011.08.05 13:16:00 -04'00'

Barbara A. Hager
Project Manager
barbara.hager@sgs.com

Date

Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < LOD)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Amount detected is between the Method Detection Limit and the Lower Calibration Limit
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range
M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Fuel 1	31101908001	07/13/2011 09:55	07/21/2011 09:40	Water
Fuel 91	31101908002	07/13/2011 09:55	07/21/2011 09:40	Water

Case Narrative

8011 - Due to laboratory error, these samples were analyzed outside the recommended holding time. Proceeded with analysis per client request.

Detectable Results Summary

*** No Detectable Results ***

Results of Fuel 1

Client Sample ID: **Fuel 1**
 Client Project ID: **1113144**
 Lab Sample ID: 31101908001-A
 Lab Project ID: 31101908

Collection Date: 07/13/2011 09:55
 Received Date: 07/21/2011 09:40
 Matrix: Water

Results by SW-846 8011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2-Dibromoethane	ND	U	0.00516	0.0187	ug/L	1	07/31/2011 14:25

Batch Information

Analytical Batch: **XGC1444**
 Analytical Method: **SW-846 8011**
 Instrument: **ECD3**
 Analyst: **DTF**
 Analytical Date/Time: **07/31/2011 14:25**

Prep Batch: **XXX1598**
 Prep Method: **SW-846 8011**
 Prep Date/Time: **07/31/2011 08:00**
 Prep Initial Wt./Vol.: **37.42 mL**
 Prep Extract Vol: **2 mL**

Results of Fuel 91

Client Sample ID: **Fuel 91**
 Client Project ID: **1113144**
 Lab Sample ID: 31101908002-A
 Lab Project ID: 31101908

Collection Date: 07/13/2011 09:55
 Received Date: 07/21/2011 09:40
 Matrix: Water

Results by SW-846 8011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,2-Dibromoethane	ND	U	0.00512	0.0185	ug/L	1	07/31/2011 15:48

Batch Information

Analytical Batch: **XGC1444**
 Analytical Method: **SW-846 8011**
 Instrument: **ECD3**
 Analyst: **DTF**
 Analytical Date/Time: **07/31/2011 15:48**

Prep Batch: **XXX1598**
 Prep Method: **SW-846 8011**
 Prep Date/Time: **07/31/2011 08:00**
 Prep Initial Wt./Vol.: **37.76 mL**
 Prep Extract Vol: **2 mL**

Batch Summary

Analytical Method: SW-846 8011

Prep Method: SW-846 8011

Prep Batch: XXX1598

Prep Date: 07/31/2011 08:00

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Analysis Date</u>	<u>Instrument</u>	<u>Analyst</u>
MB for HBN 9627 [XXX/1598]	33195	07/31/2011 13:43	ECD3	DTF
LCS for HBN 9627 [XXX/1598]	33196	07/31/2011 13:57	ECD3	DTF
LCSD for HBN 9627 [XXX/1598]	33197	07/31/2011 14:11	ECD3	DTF
Fuel 1	31101908001	07/31/2011 14:25	ECD3	DTF
Fuel 1(32008MS)	33198	07/31/2011 15:06	ECD3	DTF
Fuel 91	31101908002	07/31/2011 15:48	ECD3	DTF
1054-Well(32129DUP)	33199	07/31/2011 17:10	ECD3	DTF

Method Blank Summary

Blank ID: MB for HBN 9627 [XXX/1598]

Blank Lab ID: 33195

QC for Samples:

31101908001, 31101908002,

Matrix: Water

Results by SW-846 8011

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>DL</u>	<u>LOQ/CL</u>	<u>Units</u>	<u>DF</u>
1,2-Dibromoethane	ND	U	0.00483	0.0175	ug/L	1

Batch Information

Analytical Batch: **XGC1444**

Analytical Method: **SW-846 8011**

Instrument: **ECD3**

Analyst: **DTF**

Analytical Date/Time: **07/31/2011 13:43**

Prep Batch: **XXX1598**

Prep Method: **SW-846 8011**

Prep Date/Time: **07/31/2011 08:00**

Prep Initial Wt./Vol.: **40 mL**

Prep Extract Vol: **2 mL**

Blank Spike Summary

Blank Spike ID: LCS for HBN 9627 [XXX/1598]
 Blank Spike Lab ID: 33196
 Date Analyzed: 07/31/2011 13:57

Spike Duplicate ID: LCSD for HBN 9627 [XXX/1598]
 Spike Duplicate Lab ID: 33197
 Date Analyzed: 07/31/2011 14:11
 Matrix: Water

QC for Samples: 31101908001, 31101908002,

Results by SW-846 8011

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,2-Dibromoethane	1.00	0.894	89	1.00	0.927	93	70.0-130	3.6	30.00

Batch Information

Analytical Batch: XGC1444
 Analytical Method: SW-846 8011
 Instrument: ECD3
 Analyst: DTF

Prep Batch: XXX1598
 Prep Method: SW-846 8011
 Prep Date/Time: 07/31/2011 08:00
 Spike Init Wt./Vol.: 35 mL Extract Vol: 2 mL
 Dupe Init Wt./Vol.: 35 mL Extract Vol: 2 mL

Matrix Spike Summary

Original Sample ID: 31101908001 (Fuel 1)
MS Sample ID: 33198
MSD Sample ID:

Analysis Date: 07/31/2011 14:25
Analysis Date: 07/31/2011 15:06
Analysis Date:
Matrix: Water

QC for Samples: 31101908001, 31101908002,

Results by SW-846 8011

Parameter	Matrix Spike (ug/L)				Spike Duplicate (ug/L)				CL	RPD (%)	RPD CL
	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)				
1,2-Dibromoethane	ND	0.950	0.801	84					70.0-130		

Batch Information

Analytical Batch: XGC1444
Analytical Method: SW-846 8011
Instrument: ECD3
Analyst: DTF

Prep Batch: XXX1598
Prep Method: SW-846 8011
Prep Date/Time: 07/31/2011 08:00
MS Init Wt./Vol.: 36.86 mL Extract Vol.: 2 mL
MSD Init Wt./Vol.: Extract Vol.:



Locations Nationwide

Alaska
New Jersey
North Carolina
Maryland
New York
Ohio

31101908

West Virginia
www.us.sqs.com

[illegible]

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sqs.com/terms_and_conditions.htm

Sample Receipt Checklist (SRC)

Work Order No.: **31101908**

- [illegible]

Comments: Received one vial of Fuel 91 broken.

Date: Thu-7/21/11 00:00

Laboratory Data Review Checklist

Completed by:	<input style="width: 90%;" type="text" value="Jennifer McLean"/>
Title:	<input style="width: 90%;" type="text" value="Project Scientist"/>
Date:	<input style="width: 90%;" type="text" value="September 08, 2011"/>
CS Report Name:	<input style="width: 90%;" type="text" value="ADEC Nome"/>
Report Date:	<input style="width: 90%;" type="text"/>
Consultant Firm:	<input style="width: 90%;" type="text" value="SLR International Corp"/>
Laboratory Name:	<input style="width: 90%;" type="text" value="SGS North America, Inc."/>
Laboratory Report Number:	<input style="width: 90%;" type="text" value="1113144"/>
ADEC File Number:	<input style="width: 90%;" type="text"/>
ADEC RecKey Number:	<input style="width: 90%;" type="text"/>

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 ($4^{\circ} \pm 2^{\circ} \text{C}$)?

☒ Yes ☐ No

Comments:

SW8011 samples (transferred within SGS) arrived at Wilmington with a temperature blank at 1.2oC.

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:

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:

Temperature outage.
One of three vials for Fuel 91 had leaked upon arrival at Wilmington.

e. Data quality or usability affected? Explain.

Comments:

Regarding the temperature outage, since no evidence of freezing was documented, data was considered not impacted.
Regarding the vial leakage, it is assumed that the laboratory performed analyses on the vial(s) that had not leaked. As a result, data was not impacted.

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:

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

Comments:

No impact

5. Samples Results

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

☒ Yes ☐ No

Comments:

b. All applicable holding times met?

☐ Yes ☒ No

Comments:

Due to laboratory error, Fuel 1 and Fuel 91 were analyzed on 7/31/2011, four days past the required 14 day hold time.

c. All soils reported on a dry weight basis?

☐ Yes ☒ No

Comments:

Not applicable.

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

☒ Yes ☐ No

Comments:

1,2,3-Trichloropropane laboratory detection limit (DL) of 0.00031 mg/L did not meet the project requirement of 0.00012 mg/L.

e. Data quality or usability affected? Explain.

Comments:

Regarding hold time, both samples were nondetect below detection limits (DLs) of 0.00000516 mg/L and 0.00000512 mg/L, with a project required DL of 0.00005 mg/L. EDB results should be flagged “J-” and should be considered estimated, potentially biased low. However, as nondetect results were significantly less than project goals, data usability was not impacted.

Regarding 1,2,3-Trichloropropane, this is normal due to methodology limitations. Data was not impacted.

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:

Not applicable.

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

☐ Yes ☒ No

Comments:

Not applicable.

v. Data quality or usability affected? Explain.

Comments:

No impact.

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:

Not applicable.

- 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:

Not applicable.

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

☐ Yes ☒ No

Comments:

Not applicable.

- vii. Data quality or usability affected? Explain.

Comments:

No impact.

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:

Not applicable.

- iv. Data quality or usability affected? Explain.

Comments:

No impact.

- 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. All results less than PQL?

☒ Yes ☐ No Comments:

- iii. If above PQL, what samples are affected?

Comments:

Not applicable.

- iv. Data quality or usability affected? Explain.

Comments:

No impact.

- 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:

MW910 is the duplicate to primary sample MW10 for AK102
MW911 is the duplicate to primary sample MW11 for AK101, SW8021, and SW8260
Fuel 91 is the duplicate to primary sample Fuel 1 for SW8011

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:

iv. Data quality or usability affected? Explain.

Comments:

No impact.

f. Decontamination or Equipment Blank (if applicable)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☒ No

Comments:

Not applicable.

ii. If above PQL, what samples are affected?

Comments:

Not applicable.

iii. Data quality or usability affected? Explain.

Comments:

Not applicable.

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

a. Defined and appropriate?

☒ Yes

☐ No

Comments:

--

LABORATORY DATA QUALITY ASSURANCE SUMMARY

**ADEC NOME
1113144**

SLR Project Number 105.00065.11004

This report summarizes a review of analytical results for work order number 1113144 for samples collected on 7/12-13/2011. Samples were collected by SLR International Corp. (SLR), and submitted to SGS North America Inc. (SGS), Alaska. Samples were analyzed for the following parameters:

- Gasoline Range Organics (GRO), using Alaska Method AK101
- Diesel Range Organics (DRO), using Alaska Method 102
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), using United States Environmental Protection Agency (USEPA) SW-846 Method 8021B
- Volatile Organic Compounds (VOC), using United States Environmental Protection Agency (USEPA) SW-846 Method 8260B
- Ethylene Dibromide (EDB), using United States Environmental Protection Agency (USEPA) SW-846 Method 8011

Quality Assurance Program

A quality assurance (QA) program was followed that addressed project administration, sampling protocols, data review, and data QA. Sample QA was provided by SLR through strict adherence to sampling protocols. Chain-of-custody (COC) procedures were followed as an integral part of the QA program.

Data validation consisted of the following:

- Verifying that quality control (QC) blanks were properly prepared, identified, and analyzed.
- Reviewing COC records for completeness, signatures, and dates.
- Verifying that surrogate analyses (when applicable) were within recovery acceptance limits.
- Verifying that Laboratory Control Samples (LCS) and Laboratory Control Sample Duplicates (LCSD) were within recovery acceptance limits.
- Reviewing whether the Continuing Calibration Verification (CCV) recoveries were within applicable acceptance limits.

- Evaluating the result relative percent difference (RPD) between primary and duplicate field samples and LCS and LCSD samples.
- Evaluating whether laboratory reporting limits met project goals.
- Providing an overall assessment of laboratory data quality and qualifying sample results if necessary.

Data Qualifications

The comments presented in this report refer to the field procedures and the laboratory's performance in meeting the QC specifications. The sample results were reviewed using the following documents:

- DEC, 18 AAC 75 Oil and Other Hazardous Substances Pollution Control (DEC, January, 2009).
- DEC, Underground Storage Tanks Procedure Manual Guidance for Treatment of Petroleum – Contaminated Soil and Water and Standard Sampling Procedures (DEC, November 2002).
- DEC, Technical Memorandum – 06-002, Environmental Laboratory Data and Quality Assurance Requirements (DEC, March 2009).
- USEPA Document 530/SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, fourth edition (USEPA, November 1991).

Data Validation

Data Packages

The data package was checked for transcription errors, omissions, or other anomalies. There were no issues with regards to the data package.

Sample Receipt

The sample receipt documentation was checked for anomalies. With the exception noted below, there were no issues with regards to the receipt of the samples.

- SW8011 samples (transferred within SGS) arrived at Wilmington with a temperature blank at 1.2°C, below the ADEC required 4±2°C. Since no evidence of freezing was documented, data was considered not impacted.

Holding Times and Preservation

Samples were appropriately preserved upon collection and were submitted to SGS, Alaska. With the exception noted below, all sample analyses were conducted within required hold times and no other issues were noted in regard to sample preservation.

8011 EDB analysis was transferred to SGS in Wilmington, North Carolina laboratory. Two minor issues impacted 8011 analyses.

- Due to laboratory error, Fuel 1 and Fuel 91 were analyzed on 7/31/2011, four days past the required 14 day hold time. Both samples were nondetect below detection limits (DLs) of 0.00000516 mg/L and 0.00000512 mg/L, with a project required DL of 0.00005 mg/L. EDB results should be flagged “J-” and should be considered estimated, potentially biased low. However, as nondetect results were significantly less than project goals, data usability was not impacted.
- One of three vials for Fuel 91 had leaked upon arrival at Wilmington. It is assumed that the laboratory performed analyses on the vial(s) that had not leaked. As a result, data was not impacted.

Laboratory Method Blanks

Laboratory method blanks were analyzed at the appropriate frequencies. Analytes were not detected in method blanks at or below the Detection Limit (DL).

Trip Blanks

Analytes were not detected above the DL in any trip blank.

Surrogate Recovery Results

Surrogate analysis was performed at the required frequencies. All recoveries were within required method and laboratory acceptance limits.

Continuing Calibration Verification

Continuing calibration verifications (CCV) and Initial Calibration Verifications (ICV) were performed at the required frequencies and percent recoveries were within analytical method and SGS percent recovery acceptance limits.

Field Duplicates

Seven samples were submitted for this project for AK102. Two samples were submitted for AK101 and SW8260. Five samples were collected for SW8021. And one sample was collected for SW8011. One duplicate sample was collected and submitted to the laboratory blind for all methods. The field duplicate sample frequency was in compliance with regulatory requirements because a minimum of one per every ten field samples for each matrix, for each target analyte, was achieved.

The following field duplicates were collected:

- MW910 is the duplicate to primary sample MW10 for AK102
- MW911 is the duplicate to primary sample MW11 for AK101, SW8021, and SW8260
- Fuel 91 is the duplicate to primary sample Fuel 1 for SW8011

For analytes detected above the LOQ, all duplicate/parent relative percent differences (RPD) were within limits, (less than the 30% required for water samples).

Laboratory Control Samples/Laboratory Control Duplicate Samples

Laboratory Control Samples (LCS) and Laboratory Control Duplicate Samples (LCSD) were analyzed at the appropriate frequencies. In all cases LCS/LCSD results met percent recovery acceptance limits.

Laboratory Duplicate Samples

Laboratory duplicates were analyzed at the appropriate frequencies and met QC criteria.

Matrix Spike/Matrix Spike Duplicate Samples

A Matrix Spike (MS) but no Matrix Spike Duplicate (MSD) was analyzed for SW8011. The MS met QC criteria. Otherwise, no MS/MSDs were evaluated.

Limits of Quantitation/Reporting Limits

DLs were compared to applicable cleanup levels for the site. With the exception of the analyte listed below, all other analytes with results of ND had DLs below applicable cleanup levels. DLs were compared with 18 AAC 75.345, Table C, Groundwater Cleanup Levels (January 2009).

- 1,2,3-Trichloropropane laboratory detection limit of 0.00031 mg/L did not meet the project requirement of 0.00012 mg/L. This is usual due to methodology limitations. Data was not impacted.

Overall Assessment

This data is judged acceptable for use.

Precision, Accuracy, Representativeness, Comparability, Completeness, and Sensitivity

- Precision: Precision goals were met.
- Accuracy: Accuracy goals were met.
- Representativeness: Representativeness goals were met.
- Comparability: Comparability goals were met.
- Completeness: Completeness goals were met.
- Sensitivity: Sensitivity goals were met, except as noted in the Limit of Quantitation/Reporting Limit section.

APPENDIX C

PHOTOGRAPHIC LOG

**Groundwater Monitoring Report
ADOT&PF Nome Maintenance Fueling Station
and MarkAir Nome**

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONTAMINATED SITES PROGRAM
c/o Tamara Cardona-Marek
610 University Avenue
Fairbanks, Alaska 99709

December 2011

PHOTOGRAPHIC LOG

Photograph 1:
ADOT&PF Nome Materials Lab. 7/13/11.



Photograph 2:
Materials Lab Water Supply (Well 1). 7/13/11.



Photograph 3:
ADOT&POF Nome Maintenance Building. 7/13/11.



Photograph 4:
Maintenance Building Water Supply (Well 2). 7/13/11.



Photograph 5:
Darling Residence. 7/13/11.



Photograph 6:
Darling Residence Well. 7/13/11.



Photograph 7:
DOT Warm Storage Facility. 7/13/11.



Photograph 8:
DOT Warm Storage Facility Water Supply. 7/13/11.



Photograph 9:

Looking North/Northeast towards MarkAir Building, MW9, MW6, MW10 in foreground from right to left. 7/12/11.



Photograph 10:

Looking East across site between MW9 (right) and MW6 (left). 7/12/11.



Photograph 11:
MW3. 7/12/11.



Photograph 12:
MW3. 7/12/11.



Photograph 13:
MW4. 7/12/11.



Photograph 14:
MW4. 7/12/11.



Photograph 15:
MW4. 7/12/11.



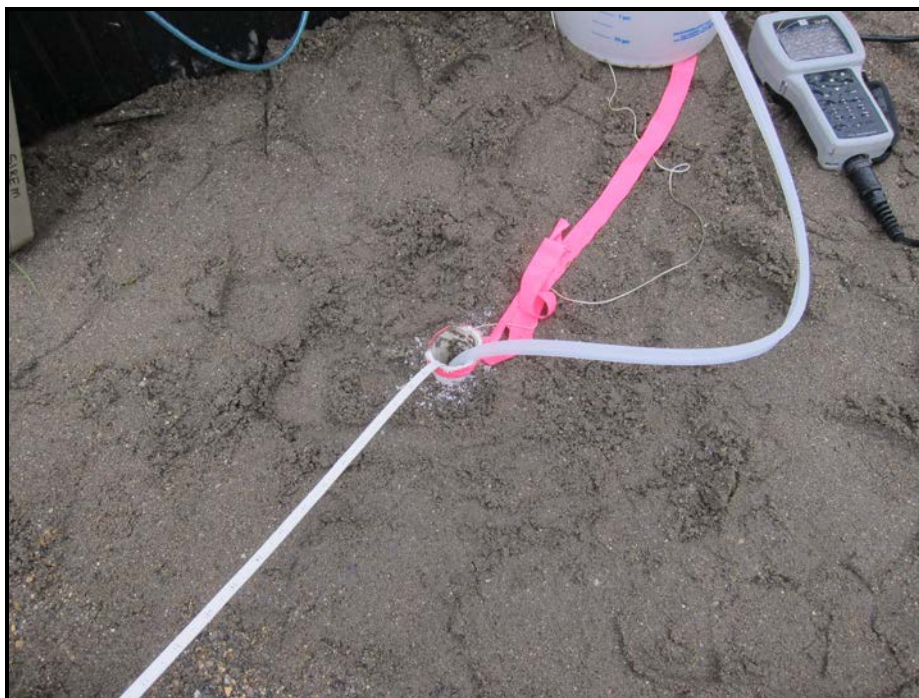
Photograph 16:
MW5. 7/12/11.



Photograph 17:
MW5. 7/12/11.



Photograph 18:
MW7. 7/12/11.



Photograph 19:
MW7. 7/12/11.



Photograph 20:
MW8. 7/12/11.



Photograph 21:
MW8. 7/12/11.



Photograph 22:
MW10. 7/12/11.



Photograph 23:
MW10. 7/12/11.



Photograph 24:
MW11. 7/12/11.



Photograph 25:
MW11. 7/12/11.



Photograph 26:
MW11. 7/12/11.



Photograph 27:
MW11. 7/12/11.



APPENDIX D

FIELD FORMS AND FIELD LOGBOOK

Groundwater Monitoring Report ADOT&PF Nome Maintenance Fueling Station and MarkAir Nome

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONTAMINATED SITES PROGRAM
c/o Tamara Cardona-Marek
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Drinking Water Well Sampling and Record Sheet

Client: ADEC
Site Name: ADOT&PF Nome
SLR Employee(s): B. Siwiec

Well Number: Fuel 1 - ADOT Maintenance Bldg.
SLR Project #: 105.00065.11004
Date: 7/13/11
Weather: Cloudy, Windy. Sample taken indoors.

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet]):
Static Water Depth (from top of casing [feet]):
Column of water in well (feet):
Time Water Level Measured:

NA - Unknown
=
=
=
=

VOLUME TO BE PURGED: Allow water to run from spigot for 1 minute prior to sampling

PURGING METHOD: N/A

FIELD PARAMETERS

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (µS)	DO (mg/L)	ORP (mV Units)	Color	Odor
N/A. Field parameters will not be collected from drinking water wells									

Total volume purged: ~1 minute
Sample Identification: FUEL 1
Duplicate Collected? YES - EDB only
Signed Sampler: BRSC

Withdrawal Rate: Unknown
Sample Date/Time: 7/13/11 935
Duplicate Identification: FUEL 91
Date: 7/13/11

ADDITIONAL INFORMATION/COMMENTS: Sampled from spigot before any filtration.
Approx 5 gallons purged prior to sampling.

Lab Analysis: 2 DRO - AK102 BTEX - 8021B EDB - 8011
of Containers: 2x 1L HCL, 3x 40mL HCL, 3x 40mL non-preserved
Duplicate: EDB only. 3x 40mL non-preserved.



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Drinking Water Well Sampling and Record Sheet

Client: ADEC
Site Name: ADOT&PF Nome
SLR Employee(s): B. Siwec

Well Number: Lab 1 - ADOT Materials Lab
SLR Project #: 105.00065.11004

Date: 7/13/11
Weather: Cloudy, Windy. Sample collected indoors.

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet]):
Static Water Depth (from top of casing [feet]):
Column of water in well (feet):
Time Water Level Measured:

Unknown
=
=
=
=
=

VOLUME TO BE PURGED: Allow water to run from spigot for 1 minute prior to sampling

PURGING METHOD: N/A

FIELD PARAMETERS

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (μ S)	DO (mg/L)	ORP (mV Units)	Color	Odor
N/A. Field parameters will not be collected from drinking water wells									

Total volume purged ~1 minute

Sample Identification: LAB1

Duplicate Collected? No

Signed Sampler: BRG

Withdrawal Rate: Unknown

Sample Date/Time: 7/13/11 1000

Duplicate Identification:

Date: 7/13/11

ADDITIONAL INFORMATION/COMMENTS:

Sampled from spigot before any filtration. Approx 5 gallons purged prior to sampling. Due to the position of the spigot, a short garden hose had to be used to gather the sample.

Lab Analysis:

of Containers:

DRO - AK102, BTEX - 8021B
2X 1L HCL, 3X 40mL HCL



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Drinking Water Well Sampling and Record Sheet

Client: ADEC
Site Name: ADOT&PF Nome
SLR Employee(s): B. Siwec

Well Number: Dar 1 - Darling Residence
SLR Project #: 105.00065.11004

Date: 7/13/11
Weather: cloudy, windy
sample collected indoors.
Unknown

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet]):
Static Water Depth (from top of casing [feet]):
Column of water in well (feet):
Time Water Level Measured:

=
=
=
=

VOLUME TO BE PURGED: Allow water to run from spigot for 1 minute prior to sampling

PURGING METHOD: N/A

FIELD PARAMETERS

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (μ S)	DO (mg/L)	ORP (mV Units)	Color	Odor
N/A. Field parameters will not be collected from drinking water wells									

Total volume purged: approx 2 gallons.

Sample Identification: DAR 1

Duplicate Collected? No

Signed Sampler: BRG

Withdrawal Rate: Unknown

Sample Date/Time: 7/13/11 1615

Duplicate Identification: ---

Date: 7/13/11

ADDITIONAL INFORMATION/COMMENTS: Sampled from spigot after particulate filter.
Spigot before filter was not accessible. Sampled before any other
filters. Purged water for approx 1 minute prior to
sampling. Water from spigot was initially dark brown and
smelled strongly of iron. It cleared somewhat before sampling.
Sample location is residence of Jeff Darling.

Lab Analysis: DRB - AK102 BTEX - 8021B

of Containers: 2x 1L Hcl, 3x 40mL Hcl



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Low Flow Well Sampling Calculation and Record Sheet

Client: ADEC
Site Name: MarkAir Nome
SLR Employee(s): B. Siwec

Well Number: MW3
SLR Project #: 105.00065.11003
Date: 7/12/11
Weather: Cloudy, windy, ~50°

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet]):
Static Water Depth (from top of casing [feet]):
Column of water in well (feet)
Time Water Level Measured:

2
=7.81 - 7.31 0.50
=2.31 - 2.81 0.50
=5.50 - 4.50
1.00

VOLUME TO BE PURGED: (Low Flow Methodology)

PURGING METHOD: Low flow, bladder pump

FIELD PARAMETERS

Criteria: ± 0.1 unit ± 3% ± 3% ± 10% ± 10mV ± 10%

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (µS)	DO (mg/L)	ORP (mV Units)	Turbidity	Odor
1639	282	0.25	6.81	3.40	1673	6.90	167.3	—	
1646	283	1.1	6.65	3.36	846	2.76	146.7	21.1	None
1649	283	1.5	6.65	3.46	845	2.39	136.2	16.4	None
1652	284	1.9	6.68	3.57	803	1.72	129.8	8.40	None
1655	283	2.25	6.70	3.67	772	1.68	125.5	5.85	None
1658	283	2.87	6.71	3.76	752	1.81	122.2	4.38	None

Total volume purged: 2.75
Sample Identification: MW3
Duplicate Collected? No
Signed Sampler: BRS

Withdrawal Rate: 0.5 L/min
Sample Date/Time: 7/12/11 1700
Duplicate Identification: —
Date: 7/12/11

ADDITIONAL INFORMATION/COMMENTS: Bladder pump placed at bottom of well. Intake approx 7ft below TOL

Lab Analysis: DRD
of Containers: 2 x 1L, HCl preserved



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Low Flow Well Sampling Calculation and Record Sheet

Client: ADEC
Site Name: MarkAir Nome
SLR Employee(s): B. Siwec

Well Number: MW-7
SLR Project #: 105.00065.11003
Date: 7/12/11
Weather: Rain, Wind ~50°

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet])
Static Water Depth (from top of casing [feet])
Column of water in well (feet)
Time Water Level Measured:

2"
=6.95
-4.99
=1.96
2000

VOLUME TO BE PURGED: (Low Flow Methodology)

PURGING METHOD: Low Flow - Bladder pump

FIELD PARAMETERS

Criteria: ± 0.1 unit ± 3% ± 3% ± 10% ± 10mV ± 10%

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (µS)	DO (mg/L)	ORP (mV Units)	Turbidity	Odor
2013	5.10	0.1	✓	-	-	-	-	-	-
2024	5.55	1.5	6.64	3.83	1405	1.47	107.4	43.1	None
2029	5.66	2.1	6.65	3.63	1434	0.90	97.7	25.3	None
2034	5.75	2.7	6.66	3.55	1444	0.87	91.5	15.8	None
2037	5.74	3.1	6.65	3.56	1452	0.82	87.4	13.1	None
2040	5.77	3.5	6.65	3.50	1457	0.73	85.0	33.1	None
2043		3.7	6.65	3.47	1462	0.68	83.3	30.1	None
2053	5.49	4.0	6.66	-	1478	0.64	74.6	22.9	

Total volume purged: 5.0
Sample Identification: MW7
Duplicate Collected? NO
Signed Sampler: B. Siwec

Withdrawal Rate: 0.5 L/min
Sample Date/Time: 7/12/11 2105
Duplicate Identification: -
Date: 7/12/11

ADDITIONAL INFORMATION/COMMENTS:

Pump set on bottom of well.
Intake is about 6 ft below TOL
2045- Stopped pump to allow recharge. will pump
again at lower rate.
2052. Start pump again.

Lab Analysis: DRO - AK102, GRO - AK101, BTEX - 80213, VOL - 8260B
of Containers: 2X 1L HCL, 9X 40 mL HCL

2056 5.55 4.4 6.67 3.62 1467 0.64 73.1 11.9 Slight HC odor
2059 5.53 4.7 6.66 3.76 1459 0.61 72.1 8.14



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Low Flow Well Sampling Calculation and Record Sheet

Client: ADEC
Site Name: MarkAir Nome
SLR Employee(s): B. Siwec

Well Number: MW10
SLR Project #: 105.00065.11003

Date: 7/12/11
Weather: cloudy ~45°, windy

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet])
Static Water Depth (from top of casing [feet])
Column of water in well (feet)
Time Water Level Measured:

2"
=10.88
-5.41
=5.47
1106

VOLUME TO BE PURGED: (Low Flow Methodology)

PURGING METHOD: Low-flow, Bladder pump.

FIELD PARAMETERS		Criteria:	± 0.1 unit	± 3%	± 3%	± 10%	± 10mV	± 10%	
Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (µS)	DO (mg/L)	ORP (mV Units)	Turbidity	Odor
1334	5.57	0.1	-	-	-	-	-	high-brown	none
1346	5.80	0.15	7.50	5.57	622	9.09	192.7	high	none
1351	5.81	1.4	7.49	5.79	646	8.75	192.2	med	none
1356	5.82	2.2	7.44	6.00	658	8.66	193.9	38.0	none
1359	5.83	2.5	7.43	6.09	663	8.56	193.5	30.4	none
1402	5.85	2.9	7.42	6.15	666	8.51	193.1	31.3	none
1405	5.83	3.3	7.42	6.23	668	8.42	192.6	27.4	none

Total volume purged: 3.6
Sample Identification: MW10
Duplicate Collected? yes
Signed Sampler: BRB

Withdrawal Rate: 0.5 R/m
Sample Date/Time: 7/12/11 1410
Duplicate Identification: MW10
Date: 7/12/11

ADDITIONAL INFORMATION/COMMENTS: Bladder pump placed at 10'

Lab Analysis: DRO
of Containers: 2x 1L, HCl preserved
+ 2x 1L for duplicate



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Low Flow Well Sampling Calculation and Record Sheet

Client: ADEC
Site Name: MarkAir Nome
SLR Employee(s): B. Siwec

Well Number: MW11
SLR Project #: 105.00065.11003
Date: 7/12/11
Weather: Cloudy, Windy ~50°

COLUMN OF WATER IN WELL

Well Casing Diameter (inches):
Total Depth of Well (from top of casing [feet]):
Static Water Depth (from top of casing [feet]):
Column of water in well (feet):
Time Water Level Measured:

2'
=8.49
=3.29
=5.20
1151

VOLUME TO BE PURGED: (Low Flow Methodology)

PURGING METHOD: Low Flow - Bladder pump

FIELD PARAMETERS

Criteria: ± 0.1 unit ± 3% ± 3% ± 10% ± 10mV ± 10%

Time	Water Level	Volume purged (gallons)	pH	Temperature (C)	Specific Conductivity (µS)	DO (mg/L)	ORP (mV Units)	Turbidity	Odor
1808	3.32	0.25	-	-	-	-	-	-	-
1814	3.35	1.1	6.69	1.72	979	1.71	128.9	55.1	None
1819	3.34	1.6	6.66	1.60	979	0.86	126.1	40.8	None
1822	3.36	2.0	6.66	1.60	977	0.77	123.5	30.3	None
1825	3.35	2.4	6.67	1.54	977	0.75	121.3	22.4	None
1828	3.35	2.75	6.67	1.46	977	0.76	119.2	17.5	None
1831	3.35	3.2	6.67	1.46	976	0.77	117.2	11.9	None
1834	3.35	3.5	6.67	1.43	975	0.72	115.5	12.1	None
1837	3.35	3.8	6.67	1.44	975	0.68	114.0	10.75	None

Total volume purged

3.8

Withdrawal Rate:

0.5 L/Min

Sample Identification:

MW11

Sample Date/Time:

7/12/11 1840

Duplicate Collected?

Yes, No DRO

Duplicate Identification:

MW11

Signed Sampler:

B. Siwec

Date:

7/12/11

ADDITIONAL INFORMATION/COMMENTS:

Bladder pump placed at bottom of

well, intake around 6 ft below TOC.

Turbidity low, not quite within 100%. All other parameters
good.

Lab Analysis:

GRO-AK101, DRO-AK102, BTEX-8021B, VOCs-8260B

of Containers:

2 x 1L HCl, 9 x 40mL HCl

+ 9 x 40mL HCl for duplicate

Project / Client

ADEC

[illegible]

4300 - Head to Anc Airport
900 - Arrive in Nome.
Cargo was delayed in Anchorage. Won't receive until 9PM. Inspect Mark Air site and contact George Krien, Surveyor and lot tenant (ERA), and airport manager. Airport manager had sent 4 photos of wells at the site. He was unable to find 5 wells. My initial findings were same as his.

1900 - Meet with George Krier
and George Bard, Survegors.
2100. Receive air cargo. Every
thing is a go for
tomorrow morning

BS 7A/11

4 B. Swirec

Location

Marie Air Nome

Date

7/2/11

Project / Client

ADEC

Weather: 43°, South wind 15-20, rain squalls

800 Begin searching for wells with metal detector. See note on page 13.

1045 Successfully found 7 of 9 wells. Was able to locate MW5, MW8, and MW4 using metal detector.*

MW4: Monument and casing are functional. Well cap was not locked. Inside of well monument was full of water due to surface ponding in the area.

Cement monument base is slightly frost jacked to approx 1" above surrounding ground. Prior to locating this well it appeared as a small round mound.

1056 MW4: Water not encountered in well. Probe stopped at 7.49 ft below TOC. Ice crystals returned on probe tip.

* MW3, MW7, MW10, MW11 had previously been located.

B. Swirec

Location

Marie Air Nome

Date

7/2/11

5

Project / Client

ADEC

1100 MW10: Casing was found protruding above ground with cap present but broken.

Cement from monument is in place, but damaged. Monument cap is missing. The existing monument materials and cement should be removed and replaced.

1106 Water encountered at 5.41 ft below TOC. Product not detected.

TD at 10.88 ft below TOC.

1110 MW5: Well found with metal detector under thin layer of dirt. Monument and casing in good condition. Well cap in place without lock.

1114 Water encountered at 8.25 ft below TOC. Product not detected.

TD at 8.70 ft. With only 0.55 ft of water in

6 B. Swirec
Location Mark Air Nome Date 7/12/11
Project / Client ADEC

- well, it is doubtful a sample can be collected.
- 1119 MW8: Well found with metal detector under thin layer of dirt and gravel. Monument and casing are in good condition. Cap was in place with no lock. Water encountered at 10.06 ft below TOC. Product not detected. TD at 10.73 ft. Only 0.07 ft of water in well. May not be able to collect sample.
1212. Calibrate YSI meter
Begin setup for sampling at MW10. Calibrate turbidimeter.
- 1410 Collect sample and duplicate at MW10. (dup = MW910)
- 1515 Obtain access to secure part of airport and locate MW3, MW7, MW11. Show surveyor to well sites. They will survey later.

7 B. Swirec
Location Mark Air Nome Date 7/12/11
Project / Client ADEC

- 1551 MW3: Water detected at 2.81 ~~2.31~~ ft below TOC. ^{B8} 7/12/11 TD @ 7.81 ~~7.31~~ B8 7/12/11. No product detected. Well casing and monument in good condition. Well cap was not locked. Gravel was pushing up against well cap. Removed gravel.
- 1604 MW11: Water detected at 3.36 ft below TOC. Product not detected. TD at 8.56. PVC casing has been jacked 2' above ground surface. Monument cap is missing. It cannot be replaced until a new monument is installed. Metal monument parts are bent and damaged and cement is damaged. Well is functional. Well cap broken.

8 B Siwiec
Location Mark Air Nome Date 7/12/11
Project / Client ADEC

~~1611~~
~~MW 7~~ **MW 7:** Water detected at 5.05
ft below TOC.
Product Not detected.
TD at 7.16.
Monument is damaged and
lid is missing. PVC casing
sticks up above ground and
was cut at an angle. I will
cut it level. No well
cap.

1639 Begin purge at MW3
1700 Sample time at MW3
No duplicate. 2 bottles

~~1751~~ **MW 11** Remove PVC sticking
up above ground.
New Depth to water: 3.29 ft.
New TD: 8.49 ft.

Well still needs new monument.

1803 Begin purge at MW 11
1840 Sample time at MW 11
Collect Duplicates of GRO,
BTEX, VOC. No DRO
duplicate. Dup: MW 911

9 B Siwiec
Location Mark Air Nome Date 7/12/11
Project / Client ADEC

2000 **MW 7** Use hack saw to
cut protruding casing.
Monument will still need
replacement. This is
a particularly bad spot
because of snow
plowing debris.
New depth to water: 4.99 ft.
New TD: 6.95
No product detected.

2013 Begin purge at MW 7
2105 Collect sample at MW 7
No duplicate. Collected DRO,
GRO, BTEX, VOC

2120 Finish sampling activities,
pack up gear.
2200 Arrive back at hotel.

7/12/11
BS

10 B Siwel DOT Nome Date 7/13/11

Location

Project / Client ADEC

Cloudy, Windy, Rain showers 42°

800 Complete paperwork from 7/12, head to DOT facility to collect water samples.

At DOT facility: Spoke to John. Sampled well water from well at maintenance shop and water from well at lab. At both sites a spigot was available to draw water from before any filtration system. At the lab, it was necessary to collect the sample through a garden hose.

955 Collect sample at Maintenance/Fueling building. Sample name: FUEL 1. 2x 1L DRO and 3x 40 mL BTEX. Also collected 3x 40 mL EDB and duplicate of EDB only. Duplicate name: FUEL 91. Purged water line for about one minute prior to

B Siwel DOT Nome

Location

Project / Client

ADEC

Date 7/13/11

11

collecting sample.

1000 Collect sample at Lab.

Sample name: LAB 1.

2x 1L DRO, 3x 40 mL BTEX.

John showed me to a large building called "Warm Storage." This building has another well. I photographed the building and well.

At the DOT station: Saw no evidence of spills or other problems, however, weather was stormy and ground was wet. This would probably mask any staining. I should note that staff there was very helpful.

1010 Go to Darling Residence, next to DOT Station.

Jeff Darling allowed me to sample his residential water well.

Darling's well water was accessed through a spigot immediately after a particulate filter. The apparatus was photographed.

Jeff Darling asked that he receive a copy of the report produced from this investigation.

1615 Collect water sample from Darling residence. Sample name: DAR1

2x 1L DRO, 3x 40mL BTEX.

Darling reports his water is high in Arsenic and Iron among other minerals and he does not drink it. However he has never known of a problem with fuel contamination.

1100 Ship sampling equipment as cargo back to Anchorage.

1200 Check in for flight to Anchorage.

7/13/11
BS

Note - Continuation of description of 7/11/11 activities.

After exhaustive search with metal detector and shovel, could not locate MW6 or MW9. These wells were located in a relatively high traffic area used to access Alaska Airlines terminal. They would have been driven over consistently and likely damaged.

In addition, the area is snow plowed in the winter and a snow plow blade could have damaged them. If the steel monument cover is missing it is very difficult to locate a well. Note that ground surface is compacted dirt and gravel.

MW5 and MW8: Decision was made not to sample either well because water depth was lower than bladder pump intake. Attempting to purge and sample using a bailer is inconsistent with methods.