

100.38.215



ALASKA
CALIFORNIA
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OREGON
WASHINGTON

February 10, 2009

Tim Woster
1066 Eliz Road
North Pole, Alaska 99505

Attn: Mr. Tim Woster

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MAR 09 2009

**CONTAMINATED
SITES
FAIRBANKS**

RE: GROUNDWATER-SAMPLING RESULTS, 1066 ELIZ ROAD, NORTH POLE, ALASKA

This report presents the results of the groundwater sampling conducted in September and October 2008 at 1066 Eliz Road and an adjacent property in North Pole, Alaska. We collected the water samples as a follow-up to previous groundwater and soil sampling conducted after the removal and closure of a 500-gallon home heating-oil underground storage tank (UST) at the residence in the summer of 2007. We conducted our work in general accordance with the Alaska Department of Environmental Conservation (ADEC) Underground Storage Tank (UST) Regulations, 18 AAC 78.

BACKGROUND

The site is in a residential neighborhood and generally level. There is a drinking-water well on the site and at the neighboring property to the south (1074 Eliz Road). Regional groundwater flow is to the northwest.

We understand you replaced the UST because your fuel-usage inventory was not consistent with past records. We were called to the site in July 2007 after the UST was removed and you were notified by the UST-excavation contractor that the former system appeared to have been leaking. Although the UST is not regulated by the ADEC, we performed a UST-closure site assessment in accordance with ADEC UST Regulations (18 AAC 78) and the ADEC UST Procedures Manual.

As part of the 2007 site assessment, we assessed subsurface conditions, observed the removal of contaminated soil, and collected representative soil samples for hydrocarbon analysis from the

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limits of the excavation and from a test pit. We also installed a collection gallery for removal of fuel floating on the water table, and collected fuel to the extent practicable. In addition, we installed and collected groundwater samples from two driven-well points (WP-1 and WP-2; Figure 1), and collected water samples from the on-site and neighboring drinking-water wells in September 2007. We collected another sample from the on-site water well in November 2007. The water samples did not contain detectable levels of diesel-range organics (DRO) or benzene, toluene, ethylbenzene, and xylenes (BTEX). A description of our activities and the results of our assessment were provided in our report, *Home Heating-Oil Underground Storage Tank Corrective Action And Assessment, 1066 Eliz Road, North Pole, Alaska*, dated August 5, 2008.

In this report, we recommended additional groundwater samples be collected from the on-site and neighboring wells, as well as from the two driven well points, for analysis of DRO and BTEX during the summer of 2008. We further recommended you apply to the ADEC for a conditional closure if the results of groundwater monitoring showed that releases from the former UST have not affected groundwater quality.

We understand you have periodically measured the thickness of nonaqueous-phase liquid hydrocarbon (NAPL) floating on the water table in the fuel-collection gallery, and have recovered NAPL as it accumulated. On September 4, 2008, Mark Lockwood from our office visited the site to measure the depth to the water table, observe site conditions, and measure the NAPL thickness, which at that time was less than ¼-inch thick; small drops of NAPL were visible on the water's surface in the collection gallery. Less than 1 gallon of product was collected in 2008.

This report documents the additional groundwater sampling we conducted subsequent to Mr. Lockwood's September 2008 site visit.

FIELD ACTIVITIES

Following Mr. Lockwood's visit, Kristen Williams, an environmental chemist from our office, returned to the site on September 9, 2008. She collected groundwater samples from the two well points (WP-1 and WP-2) installed in 2007, and from the residences at 1066 and 1074 Eliz Road

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(Figure 1). She first collected water samples from a spigot on the north side of the garage at 1074 Eliz Road, allowing the water to run for about five minutes (about 10 gallons) before sampling to purge the plumbing system and obtain a sample representing groundwater quality there. She collected duplicate samples (*1369-090908-001* and *1369-090908-002*) at this residence for quality-control purposes.

Ms. Williams then collected samples from well points WP-1 and WP-2. Before collecting the samples, she measured the depth to groundwater and checked each well for the presence of NAPL using water-finding paste; she did not detect any NAPL in either well. She then used a peristaltic pump to purge about three well volumes from each well before collecting groundwater samples from WP-1 and WP-2 (samples *1369-090908-WP1* and *1369-090908-WP2*, respectively). She discharged the purge water to the ground surface.

After collecting the samples from the well points, she collected a water sample (sample *1369-090908-003*) from the plumbing system in the garage at 1066 Eliz Road. A water filter in the system was first removed, and she sampled directly from the filter location after purging about 10 gallons from the system to obtain a representative groundwater sample.

Ms. Williams submitted the September 2008 water samples to SGS Environmental Services, Inc. (SGS) for analysis of BTEX by Environmental Protection Agency (EPA) Method SW8021B and DRO by Alaska Method AK102.

The analytical results from the September 9, 2008 sampling effort (presented in the Results section, below) indicated there was a high concentration of DRO in the sample from the residential well at 1066 Eliz Road, but no detectable BTEX. To check whether this result might be an anomaly and did not represent groundwater quality at the residence, Ms. Williams and Rodney Guritz from our office returned to the site on October 2, 2008, to collect additional samples from the residential well at 1066 Eliz Road.

After purging the plumbing system of about 35 gallons, they collected duplicate samples (*1369-007* and *1369-008*) from a location upstream of the filter in the plumbing system that yielded the high DRO concentration at 1066 Eliz Road in September 2008. They then collected a sample (*1369-009*) from the kitchen sink faucet downstream from an activated-carbon filter

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installed there. They submitted the first two October water samples to SGS for determination of DRO and BTEX by the methods noted above, and submitted the sample from the kitchen sink faucet for determination of DRO by Alaska Method AK102 and volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) drinking-water method 524.2.

QUALITY ASSURANCE AND QUALITY CONTROL

Quality Assurance/Quality Control (QA/QC) procedures assist in producing data of acceptable quality and reliability. We reviewed the analytical results for laboratory QC samples and also conducted our own QA assessment for this project. Our QA review procedures allowed us to document the accuracy and precision of the analytical data, as well as check that the analyses were sufficiently sensitive to detect analytes at levels below regulatory standards. The laboratory reports for all project samples, including the case narratives describing the laboratory QA results in detail, are included as an attachment to this report. Details regarding the results of our QA review are presented below.

Sample Handling

The groundwater samples were analyzed at SGS in Anchorage, Alaska. SGS is an ADEC-approved Laboratory for Contaminated Sites.

We reviewed the chain-of-custody records and laboratory-receipt forms to confirm custody was not breached. SGS measured the temperature-blank and cooler temperatures to confirm the samples were kept properly chilled during shipping. The temperature blanks and coolers were within the acceptable temperature range (between 2 °C and 6 °C) when we delivered them to the sample-receiving facility in Fairbanks, but the October 2008 samples were below 2 °C on their arrival at the laboratory in Anchorage. No ice was noted in the samples, and it is unlikely the low temperatures affected the analytical results.

All samples for this project were analyzed within their specified hold times. There were no sample-handling anomalies identified that would adversely affect data quality for this project.

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Analytical Sensitivity

The groundwater results had practical quantitation limits (PQLs) below the ADEC groundwater-cleanup levels.

Trip blanks were shipped with water samples to be analyzed for BTEX and VOCs to determine whether cross-contamination or contamination from an outside source may have occurred during shipment or storage. The trip blanks associated with this project did not contain detectable analytes.

Laboratory method blanks also were run in association with the samples collected for this project to check for contributions to the analytical results possibly attributable to laboratory-based contamination. The method blanks did not contain analytes above their PQLs.

Accuracy

Laboratory analytical accuracy may be assessed through evaluating the analyte recoveries from laboratory control spike (LCS) and LCS duplicate (LCSD) analyses, as well as the recovery of analyte surrogates added to project samples.

The LCS/LCSD recoveries were within the laboratory's control limits for the analytes determined in the water samples, with the exception of five analytes recovered above their control limits in the drinking-water analysis. None of these analytes were detected in the drinking-water sample analysis, so the results were unaffected.

The method blank and surrogate recoveries were within the QC criteria for all analytes, and the concentration data for this project are considered to have been accurately measured.

Precision

We collected field duplicate samples for soil analysis at a frequency of at least 10 percent to evaluate the precision of analytical measurements, as well as the reproducibility of our sampling technique. To evaluate the precision of the data, we calculated the relative percent difference (RPD; difference between the sample and its field duplicate divided by the mean of the two); RPD can be evaluated only if the results of the analyses for both the sample and its duplicate are

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above the method detection limits. We collected field duplicates in both the September and October sampling efforts, but no analytes were detected and RPDs were therefore not calculable.

The laboratory also analyzed LCSs and LCSDs to assess the accuracy of their analytical procedures. The LCS analysis allows the laboratory to evaluate their ability to recover analytes added to clean aqueous matrices. The LCS/LCSD RPD can also be used to assess analytical precision. The results of the LCS/LCSD RPD calculations were within the laboratory's acceptable ranges for the BTEX, VOC, and DRO analyses, indicating the analyses were precisely conducted.

QA/QC Summary

Based on our QA/QC review, no samples were rejected as unusable due to quality-control failures, and our completeness goal of obtaining 85 percent useable data was met. In general, the quality of the analytical data for this project does not appear to have been compromised by any analytical irregularities.

RESULTS AND DISCUSSION

The samples we collected on September 9, 2008, from wells WP-1, WP-2, and the residences at 1066 and 1074 Eliz Road did not contain detectable BTEX analytes (Table 1). The September 2008 samples also did not contain detectable DRO, with the exception of the sample collected from 1066 Eliz Road (1369-090908-003). SGS reported that this sample contained DRO at 6.73 mg/L, a high concentration we considered unlikely to represent the groundwater quality there. We therefore collected an additional set of samples in October 2008 from the plumbing system at 1066 Eliz Road, both upstream and downstream from the sampling point yielding the September sample. The upstream samples did not contain detectable BTEX or DRO (Table 1), and the sample collected at the kitchen faucet (treated with an activated-carbon filter) did not contain detectable DRO or VOCs.

Because the DRO result from the 1066 Eliz Road sample we collected in September 2008 was not reproducible, we requested the DRO chromatogram for that sample. The chromatogram (Figure 2) does not exhibit the signature of a middle-distillate fuel, though there are several

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compounds apparent in the chromatogram that elute in the diesel range. We understand you modified the plumbing system prior to our September 2008 sampling effort; it is possible the DRO-eluting compounds detected in the September sample were associated with materials used in the plumbing modification. The unfiltered duplicate samples we collected from the plumbing system in October did not contain detectable DRO, and there is no evidence of petroleum contamination in the groundwater-source area for the water well at this site.

CONCLUSIONS AND RECOMMENDATIONS

We noted in our August 5, 2008, report that contaminated soil surrounding the former UST was removed in 2007 to the extent practicable. Soil remaining at the edge of the UST excavation contained DRO greater than the ADEC cleanup level, but appeared to be restricted to a narrow zone about 6 feet below the ground surface (bgs) on the south side of the UST. Benzene was not detected above the ADEC soil-cleanup level in our 2007 assessment, and soil collected at a depth of 10 feet bgs in a nearby test pit did not exceed the ADEC cleanup levels.

Floating fuel product has been recovered from the NAPL-collection gallery periodically since the UST excavation. Less than 1 gallon of NAPL has been recovered; NAPL thickness measured in the collection gallery was less than ¼-inch by September 2008. Groundwater samples collected in 2007 and 2008 did not contain detectable BTEX or DRO.

We stated in our August 5, 2008, report, "Once the results of groundwater monitoring continue to show releases from the former UST have not affected the groundwater quality, apply for a conditional closure from the ADEC." We anticipate one more round of sampling will be required to document the groundwater quality at the site and in the neighboring well. We recommended collecting additional samples in the summer of 2009.

LIMITATIONS

The data presented in this report are based on the sampling and analysis we performed; they should not be construed as a guarantee of the groundwater quality at the site. Our sampling was intended to confirm the presence or absence of selected contaminants at the sampled locations. It

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is possible our samples do not represent the highest levels of contamination. In addition, conclusions cannot be drawn on the presence or absence of contaminants for which laboratory analyses were not performed. As a result, the sampling and analysis performed can only provide you with our judgment as to the environmental characteristics of the site, and in no way guarantees an agency or its staff will reach the same conclusions.

Changes due to natural forces or human activity can occur on the site. The data presented in this report should be considered representative only of the time the data were collected. In addition, changes in government codes, regulations, or laws may occur. Because of such changes beyond our control, our observations and interpretations may need to be revised.

Please contact us if you have any questions regarding this project.

Sincerely,

SHANNON & WILSON, INC.


Jon Lindstrom, Ph.D.
Associate

Enclosures: Table 1 Groundwater Analytical Results, 1066 and 1074 Eliz Road
Figure 1 Site Plan
Figure 2 DRO Chromatogram for Sample 1369-090908-003
SGS Analytical Laboratory Reports 1084979 and 1085947 and ADEC Laboratory
Data Review Checklists

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Table 1. Groundwater Analytical Results
 1066 and 1074 Eliz Road, North Pole, Alaska

Sample ID:	Sample Date	DRO ¹ (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	o-Xylene (µg/L)	p- & m-Xylenes (µg/L)
ADEC Groundwater Cleanup Level -->							
1369-090908-001*	9/9/2008	< 0.400	< 0.500	< 2.00	< 2.00	< 2.00	< 2.00
1369-090908-002*	9/9/2008	< 0.417	< 0.500	< 2.00	< 2.00	< 2.00	< 2.00
1369-090908-003†	9/9/2008	6.73	< 0.500	< 2.00	< 2.00	< 2.00	< 2.00
1369-090908-WP-1	9/9/2008	< 0.417	< 0.500	< 2.00	< 2.00	< 2.00	< 2.00
1369-090908-WP-2	9/9/2008	< 0.417	< 0.500	< 2.00	< 2.00	< 2.00	< 2.00
1369-007‡	10/2/2008	<0.400	<0.500	<2.00	<2.00	<2.00	<2.00
1369-008‡	10/2/2008	<0.400	<0.500	<2.00	<2.00	<2.00	<2.00
1369-009§	10/2/2008	<0.400	<0.500	<0.500	<0.500	<0.500	<0.500

Notes:

¹ DRO - Diesel range organics determined by Alaska Method AK102

BTEX determined by EPA Method SW8021B, except VOCs determined by EPA Method 524.2 in sample 1369-009

* Duplicate samples collected from spigot on north side of garage at 1074 Eliz Road

† Sample collected from plumbing system near wellhead at 1066 Eliz Road

‡ Duplicate samples collected from same location as sample 1369-090908-003

§ BTEX and other VOCs determined by EPA Method 524.2

Peede Road

APPROXIMATE
NORTH

Eliz Road

WP-2

WP-1

1066 Eliz Road

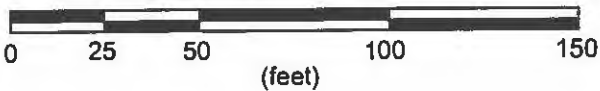
Culvert - Fuel Collection Gallery
Former Heating-Oil UST

1074 Eliz Road

LEGEND:

⊕ - Monitoring Well

APPROXIMATE SCALE: 1 inch = 50 feet



Groundwater Monitoring
1066 Eliz Street
North Pole, Alaska

SITE PLAN

February 2009

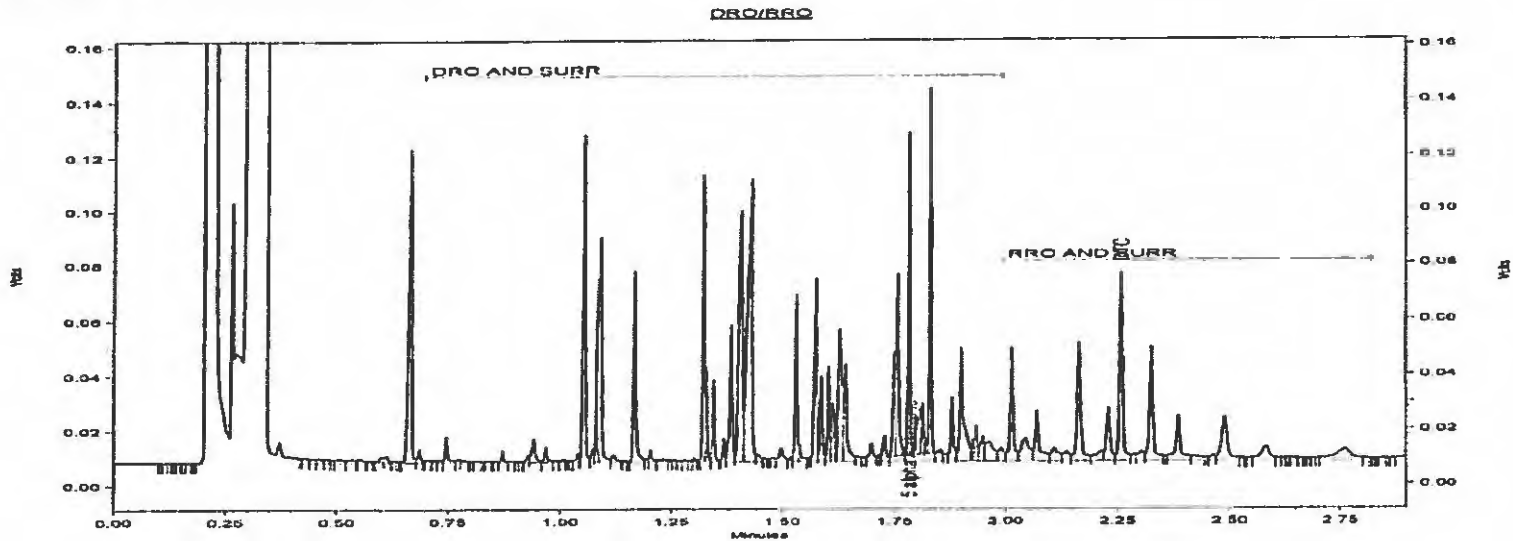
31-1-11369-002

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GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 1

SGS Environmental Services Inc.

Sample Name: 1084979003 **Analyst:** BME **Dilution:** 1
Date/Time: 8/26/2008 9:35:09 AM
Method: E:\Public\2008\09\SD\Method\SDR\SDR091108_SV_B.met
Sample File: E:\Public\2008\09\SD\Data\092508R\SDR09110825_143.DAT



Rear FID Results						
Name	R.T.	Area	Amount	IC	Units	
5 alpha Androstane	1.782	35667	81.063	TL		
DTC	2.239	35471	98.537	LL		
DRO		694965	1614.282		mg/L	
RRO		191550	964.218		mg/L	
DRO AND SURR		730632	1697.131		mg/L	
RRO AND SURR		227021	1142.771		mg/L	

Groundwater Mointoring
 1066 Eliz Road
 North Pole, Alaska

DRO CHROMATOGRAM
FOR SAMPLE 1369-090908-003

February 2009

31-1-11369-002

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 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 2



**SGS Environmental Services
Alaska Division
Level II Laboratory Data Report**

Project: 11369-002 Eliz Rd UST
Client: Shannon & Wilson-Fairbanks
SGS Work Order: 1084979

Released by:

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

Client SHANFBK Shannon & Wilson-Fairbanks
Workorder 1084979 11369-002 Eliz Rd UST

Printed Date/Time 10/1/2008 11:58

Sample ID Client Sample ID

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

1084979003 PS 1369-090908-003
AK102 - An unknown hydrocarbon is present.

859287 MB MB for HBN 206474 [VXX/18753]
MB - result for benzene is greater than one-half the PQL but less than PQL.



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.us.sgs.com>

Mark Lockwood
Shannon & Wilson-Fairbanks
2355 Hill Rd
Fairbanks, AK 99709

Work Order:	1084979	
	11369-002 Eliz Rd UST	Released by:
Client:	Shannon & Wilson-Fairbanks	
Report Date:	October 01, 2008	

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 6010B, 7470A, 7471A, 9040B, 9045C, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

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.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL	Practical Quantitation Limit (reporting limit).
U	Indicates the analyte was analyzed for but not detected.
F	Indicates value that is greater than or equal to the MDL.
J	The quantitation is an estimation.
ND	Indicates the analyte is not detected.
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
D	The analyte concentration is the result of a dilution.
LT	Less Than
!	Surrogate out of control limits.
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
JL	The analyte was positively identified, but the quantitation is a low estimation.
E	The analyte result is above the calibrated range.
R	Rejected

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.



SGS Ref.# 1084979001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID 1369-090908-001
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 16:42
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		09/19/08	09/19/08	HM
Toluene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	91.8		%	SW8021B	A	80-120	09/19/08	09/19/08	HM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.400	mg/L	AK102	D		09/23/08	09/26/08	BME
<u>Surrogates</u>									
5a Androstane <surr>	79.6		%	AK102	D	50-150	09/23/08	09/26/08	BME



SGS Ref.# 1084979002
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID 1369-090908-002
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 16:55
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		09/19/08	09/19/08	HIM
Toluene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HIM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HIM
o-Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HIM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HIM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	92.7		%	SW8021B	A	80-120	09/19/08	09/19/08	HIM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.417	mg/L	AK102	D		09/23/08	09/26/08	BME
<u>Surrogates</u>									
5a Androstane <surr>	58.9		%	AK102	D	50-150	09/23/08	09/26/08	BME



SGS Ref.# 1084979003
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID 1369-090908-003
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 18:16
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

AK102 - An unknown hydrocarbon is present.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
Toluene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
o-Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	91.1		%	SW8021B	A	80-120	09/19/08	09/19/08	IIM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	6.73	0.417	mg/L	AK102	D		09/23/08	09/26/08	BME
<u>Surrogates</u>									
5a Androstane <surr>	81.1		%	AK102	D	50-150	09/23/08	09/26/08	BME



SGS Ref.# 1084979004
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID 1369-090908-WP-1
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 17:43
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
Toluene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
o-Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	IIM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	92.9		%	SW8021B	A	80-120	09/19/08	09/19/08	IIM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.417	mg/L	AK102	D		09/23/08	09/26/08	BME
<u>Surrogates</u>									
5a Androstane <surr>	76.9		%	AK102	D	50-150	09/23/08	09/26/08	BME



SGS Ref.# 1084979005
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID 1369-090908-WP-2
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 17:57
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		09/19/08	09/19/08	HM
Toluene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		09/19/08	09/19/08	HM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	93		%	SW8021B	A	80-120	09/19/08	09/19/08	HM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.417	mg/L	AK102	D		09/23/08	09/26/08	BME
<u>Surrogates</u>									
5a Androstane <surr>	80.9		%	AK102	D	50-150	09/23/08	09/26/08	BME



SGS Ref.# 1084979006
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Client Sample ID Trip Blanks
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Collected Date/Time 09/09/2008 16:42
Received Date/Time 09/11/2008 9:37
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Fuels Department									
Benzene	ND	0.500	ug/L	SW8021B	Λ		09/19/08	09/19/08	HM
Toluene	ND	2.00	ug/L	SW8021B	Λ		09/19/08	09/19/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	Λ		09/19/08	09/19/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	Λ		09/19/08	09/19/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	Λ		09/19/08	09/19/08	HM
Surrogates									
1,4-Difluorobenzene <surrogate>	92.7		%	SW8021B	Λ	80-120	09/19/08	09/19/08	HM



SGS Ref.# 858892 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Prep Batch XXX20072
Method SW3520C
Date 09/23/2008

QC results affect the following production samples:

1084979001, 1084979002, 1084979003, 1084979004, 1084979005

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Semivolatile Organic Fuels Department					
Diesel Range Organics	0.0800 J	0.400	0.0800	mg/L	09/26/08
Surrogates					
5a Androstane <surr>	85.6	60-120		%	09/26/08
Batch	XFC8221				
Method	AK102				
Instrument	HP 5890 Series II FID SV D R				



SGS Ref.# 859287 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Matrix Water (Surface, EIT., Ground)

Printed Date/Time 10/01/2008 11:58
Prep Batch VXX18753
Method SW5030B
Date 09/19/2008

QC results affect the following production samples:

1084979001, 1084979002, 1084979003, 1084979004, 1084979005, 1084979006

Parameter	Results	Reporting Control Limit	MDL	Units	Analysis Date
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Volatile Fuels Department

Benzene	0.262 J	0.500	0.150	ug/L	09/19/08
Toluene	ND	2.00	0.620	ug/L	09/19/08
Ethylbenzene	ND	2.00	0.620	ug/L	09/19/08
o-Xylene	ND	2.00	0.620	ug/L	09/19/08
P & M -Xylene	ND	2.00	0.620	ug/L	09/19/08

Surrogates

1,4-Difluorobenzene <surrogate>	91.4	80-120		%	09/19/08
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Batch VFC9172
Method SW8021B
Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 858893 Lab Control Sample
858894 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd UST
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
Prep Batch XXX20072
Method SW3520C
Date 09/23/2008

QC results affect the following production samples:

1084979001, 1084979002, 1084979003, 1084979004, 1084979005

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	18.3	92	(75-125)		20 mg/L	09/26/2008
	LCSD	17.8	89		3	(< 20)	20 mg/L 09/26/2008

Surrogates

5a Androstane <surr>	LCS		97	(60-120)			09/26/2008
	LCSD		95		3		09/26/2008

Batch XFC8221
Method AK102
Instrument HP 5890 Series II FID SV D R



SGS Ref.# 859288 Lab Control Sample
 859289 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd UST
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/01/2008 11:58
 Prep Batch VXX18753
 Method SW5030B
 Date 09/19/2008

QC results affect the following production samples:
 1084979001, 1084979002, 1084979003, 1084979004, 1084979005, 1084979006

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Fuels Department</u>							
Benzene	LCS	103	103	(80-120)		100 ug/L	09/19/2008
	LCSD	104	104		1 (< 20)	100 ug/L	09/20/2008
Toluene	LCS	108	108	(80-120)		100 ug/L	09/19/2008
	LCSD	109	109		1 (< 20)	100 ug/L	09/20/2008
Ethylbenzene	LCS	109	109	(87-125)		100 ug/L	09/19/2008
	LCSD	110	110		1 (< 20)	100 ug/L	09/20/2008
o-Xylene	LCS	105	105	(85-120)		100 ug/L	09/19/2008
	LCSD	106	106		1 (< 20)	100 ug/L	09/20/2008
P & M -Xylene	LCS	215	108	(87-125)		200 ug/L	09/19/2008
	LCSD	217	108		1 (< 20)	200 ug/L	09/20/2008
Surrogates							
1,4-Difluorobenzene <sur>	LCS		100	(80-120)			09/19/2008
	LCSD		101		1		09/20/2008

Batch VFC9172
 Method SW8021B
 Instrument IIP 5890 Series II PID+HECD VBA



Shannon & Wilson, Inc.

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-6020

2355 Hill Road
Fairbanks, AK 99707
(907) 479-0600

1150 Olive Blvd., Suite 276
St. Louis, MO 63141
(314) 872-8170

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1084979



Field Record

Page 1 of 1
Laboratory _____
Attn: _____

Analysis Parameters/Sample Container Description (Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp. Grab			Total Number of Containers	Remarks/Matrix
				DDO	BTEX (8621)			
1369-090908-001	① A-E	16:42	9/9/08	X	X	X	5	W
1369-090908-002	②	16:55		X	X	X	5	
1369-090908-003	③	18:16		X	X	X	5	
1369-090908-WP-1	④	17:43		X	X	X	5	
1369-090908-WP-2	⑤	17:57		X	X	X	5	
Trip Blanks	⑥ AC	—	9/9/08	-		X	3	

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Project Number: 1369-002	Total Number of Containers: 28	COC Seals/Intact? Y/N/NA		Signature: <i>Krista R Williams</i>	Time: 10:25	Signature: <i>Carmon Beene</i>	Time: 11:30	Signature: _____	Time: _____
Project Name: ELIZABETH	Received Good Cond./Cold	Delivery Method: Hand (attach shipping bill, if any)		Printed Name: Krista R Williams	Date: 9/11/08	Printed Name: CARMON BEENE	Date: 9/11/08	Printed Name: _____	Date: _____
Contact: Mark Lockwood	Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Sampler: KRW		Company: Shannon & Wilson		Company: SGS		Company: _____	
Instructions		Received By: 1.		Received By: 2.		Received By: 3.			
Requested Turn Around Time: STD.		Signature: <i>Carmon Beene</i>	Time: 10:25	Signature: _____	Time: _____	Signature: <i>Joe Rudi</i>	Time: 0937		
Special Instructions: Level II Deliverables		Printed Name: CARMON BEENE	Date: 9/11/08	Printed Name: _____	Date: _____	Printed Name: Joe Rudi	Date: 9/11/08		
Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File		Company: SGS		Company: _____		Company: SGS			

FBXB TB = 2.4
C = 4.5



SAMPLE RECEIPT FORM

SGS WO#:

Yes No NA

- Are samples RUSH, priority or w/in 72 hrs of hold time?
- If yes, have you done e-mail ALERT notification?
- Are samples within 24 hrs. of hold time or due date?
- If yes, have you also spoken with supervisor?
- Archiving bottles (if req'd): Are they properly marked?
- Are there any problems? PM Notified?
- Were samples preserved correctly and pH verified?

- If this is for PWS, provide PWSID.
- Will courier charges apply?
- Method of payment?
- Data package required? (Level: 1 / 2 / 3 / 4)
Notes:
- Is this a DoD project? (USACE, Navy, AFCEE)

TAT (circle one): Standard or Rush
 Received Date: 9/10/09
 Received Time: 1025
 Is date/time conversion necessary? N/A
 # of hours to AK Local Time: N/A
 Thermometer ID: FBXB

Cooler ID	Temp Blank	Cooler Temp
<u>1</u>	<u>2.4 °C</u>	<u>4.5 °C</u>

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client
 Alert Courier / UPS / FedEx / USPS / DHL /
 AA Goldstreak / NAC / ERA / PenAir / Carllie /
 Lynden / SGS / Other:

Airbill #

- Additional Sample Remarks: (✓ if applicable)
- Extra Sample Volume?
 - Limited Sample Volume?
 - MeOH field preserved for volatiles?
 - Field-filtered for dissolved
 - Lab-filtered for dissolved
 - Ref Lab required?
 - Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No		Samples/Analyses Affected:
<input type="checkbox"/>	<input type="checkbox"/>	Is received temperature $4 \pm 2^\circ\text{C}$?	
<input type="checkbox"/>	<input type="checkbox"/>	Exceptions: <u> </u>	<u> </u>
<input type="checkbox"/>	<input type="checkbox"/>	If temperature(s) $< 0^\circ\text{C}$, were containers ice-free? <u>N/A</u> <i>Notify PM immediately of any ice in samples.</i>	
<input type="checkbox"/>	<input type="checkbox"/>	Was there an airbill? <u> </u> (Note # above in the right hand column)	
<input type="checkbox"/>	<input type="checkbox"/>	Was cooler sealed with custody seals? # / where: <u> </u>	
<input type="checkbox"/>	<input type="checkbox"/>	Were seal(s) intact upon arrival?	
<input type="checkbox"/>	<input type="checkbox"/>	Was there a COC with cooler?	
<input type="checkbox"/>	<input type="checkbox"/>	Was COC sealed in plastic bag & taped inside lid of cooler?	
<input type="checkbox"/>	<input type="checkbox"/>	Was the COC filled out properly?	
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC indicate USACE / Navy / AFCEE project?	
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC and samples correspond?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all sample packed to prevent breakage? Packing material: <u> </u>	
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples unbroken and clearly labeled?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples sealed in separate plastic bags?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all VOCs free of headspace and/or MeOH preserved?	
<input type="checkbox"/>	<input type="checkbox"/>	Were correct container / sample sizes submitted?	
<input type="checkbox"/>	<input type="checkbox"/>	Is sample condition good?	
<input type="checkbox"/>	<input type="checkbox"/>	Was copy of CoC, SRF, and custody seals given to PM to fax?	

This section must be filled if problems are found.

Yes No
 Was client notified of problems?

Individual contacted:
 Via: Phone / Fax / Email (circle one)
 Date/Time:

Reason for contact:

Change Order Required?
 SGS Contact:

Notes:

Completed by (sign): Carmen Beene (print): CARMEN BEENE
 Login proof (check one): waived required performed by: Joe Reed



SAMPLE RECEIPT FORM FOR TRANSFERS
From
FAIRBANKS, ALASKA OR HONOLULU, HAWAII
To
ANCHORAGE, AK

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes:

Receipt Date / Time: Joe 9/11/08 0937Is Sample Date/Time Conversion Necessary? Yes _____ No

Number of Hours From Alaska Local Time: _____

Foreign Soil? Yes _____ No

Delivery method to Anchorage (circle all that apply):

Alert Courier / UPS / FedEx / USPS / AA Goldstreak / NAC / ERA / PenAir / Carlisle / Lynden / SGS

Other: _____

Airbill # _____

COOLER AND TEMP BLANK READINGS*

Cooler ID	Temp Blank (°C)	Cooler (°C)	Cooler ID	Temp Blank (°C)	Cooler (°C)
<u>1</u>	<u>5.0</u>	<u>4.2</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

CUSTODY SEALS INTACT: YES / NO# / WHERE: 2, 1 on front + 1 on backCOMPLETED BY: Joe Ruff

*Temperature readings include thermometer correction factors.



#	Container ID	Matrix	Test	Container Volume										Container Type								Preservative																	
				QC	TB	1 L	500 mL	250 mL	125 mL	60 mL	40 mL	8oz (250 mL)	4oz (125 mL)	Other	AG	CG	HDPE	Nalgene	Cubie	Coli	Septa	Other	None	HCl	HNO ₃	H ₂ SO ₄	MeOH	Na ₂ S ₂ O ₃	NaOH	Other									
1-5	A-C	1	BTex							15																													
	D,E	1	DRO			22		10																															
6	A-C	1	BTex							3																													

Page 17 of 18

Bottle Totals			10	18		
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Completed by: Joe R. C. Date: 9/1/08

SGS Environmental

CUSTODY SEAL

W# 4979, 4980

Signature:

Carmon Beene

Date/Time:

9/10/08 1645

SGS Environmental

CUSTODY SEAL

W# 4979, 4980

Signature:

Carmon Beene

Date/Time:

9/10/08 1645

1084979



LABORATORY DATA REVIEW CHECKLIST

(NOTE: NA = not applicable)

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? Yes / No
- 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 NA

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)? Yes / No
- b. Were the correct analyses requested? Yes / No

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)? Yes / No
- b. Sample preservation acceptable - acidified waters, MeOH-preserved VOC soil (GRO, BTEX, VOCs, etc.)? Yes / No
- c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? NA / Yes / No
- d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? NA / Yes / No
- e. Data quality or usability affected? Yes (explain) No

4. Case Narrative

- a. Present and understandable? Yes / No (explain)
- b. Discrepancies, errors or QC failures noted by the lab? NA / Yes / No (explain)

SGS Work Order Number: 1084979

- c. Were all corrective actions documented? (NA) / Yes / No (explain) – Note: No corrective actions were required.
- d. Is there an effect on data quality/usability, according to the case narrative? (NA) / No / Yes (explain)

5. Sample Results

- a. Correct analyses performed/reported as requested on COC? (Yes) / No (explain)
- b. All applicable holding times met? (Yes) / No
- c. All soils reported on a dry-weight basis? (NA) / Yes / No
- d. Are the reported POLs less than the Cleanup Level or the minimum required detection level for the project? (Yes) / No (explain only for non-detects with elevated PQLs)
- e. Data quality or usability affected? (No) / Yes (explain)

6. QC Samples

- a. Method Blank
- i. Is at least one method blank (MB) reported per matrix, analysis, and 20 samples? (Yes) / No
- ii. Are all method blank results less than PQL? (Yes) / No
- iii. If MB above PQL, what samples are affected?
- iv. Do the affected sample(s) have data flags? Yes / No (NA)
If so, are the data flags clearly defined? Yes / No (NA)
- v. Are data quality or usability affected? (No) (i.e., MB data are acceptable) / Yes (Explain)
- b. Laboratory Control Sample/Duplicate (LCS/LCSD)
- i. Organics - Is at least one LCS/LCSD reported per matrix, analysis, and 20 samples? (NA) (Yes) / No
- ii. Metals/Inorganics - Is at least one LCS and one sample duplicate reported per matrix, analysis and 20 samples? (NA) / Yes / No
- iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits or project-specified DQOs? [AK petroleum methods %R < 20%; other analyses, refer to lab QC pages] (Yes) / No (explain)

SGS Work Order Number: 1084979

- iv. Precision – Are all relative percent differences (RPDs) reported and less than method or laboratory limits, or project-specified DQOs? Yes / No (explain)
- v. If %R or RPD is outside of acceptable limits, what samples are affected? NA or list
- vi. Do the affected samples(s) have data flags? NA / Yes / No (explain)
If so, are the data flags clearly defined?
- vii. Is the data quality or usability affected? No or explain.

c. Surrogates - Organics Only

- i. Are surrogate recoveries reported for organic analyses, including field, QC and laboratory samples? Yes / No
- ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits or project-specified DQOs? Yes / No
- iii. Do the sample results with failed surrogate recoveries have data flags? NA / Yes / No (explain)
If so, are the data flags clearly defined? Yes / No NA
- iv. Is the data quality or usability affected? No or explain.

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

- i. Is at least one trip blank (TB) reported per matrix, analysis and cooler? NA / Yes / No
- ii. Are all results less than the PQL? NA / Yes / No
- iii. If TB is above the PQL, what samples are affected? NA or list samples
- iv. Is the data quality or usability affected? No or explain.

e. Field Duplicate

- i. Was at least one field duplicate submitted per matrix, analysis and 10 project samples? Yes / No **Note: Field duplicate samples were 1369-090908-001/-002.**
- ii. Were the field duplicates submitted blind to the lab? Yes / No / NA
- iii. Precision – Are all relative percent differences (RPDs) less than specified DQOs (recommended: 30% for water, 50% for soil) ? Yes / No NA — **Note: RPDs were not calculable because no analytes were detected in the samples.**

SGS Work Order Number: 1084979

iv. Is the data quality or usability affected? No / Yes (explain)

f. Decontamination or Equipment Blank (if applicable)

Not Applicable or ...

i. Are all results less than the PQL? Yes / No

ii. If results are above PQL, what samples are affected? NA or list

iii. Is the data quality or usability affected? Explain.

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

Not applicable or ...

a. Are they defined and appropriate? Yes / No

Completed by: Jon Lindstrom, Ph.D.

Title: Environmental Chemist

Date: December 1, 2008

Consultant Firm: Shannon & Wilson, Inc.

CS Report Name: Eliz Road Groundwater Monitoring Report

Laboratory Report Date: October 22, 2008

Laboratory Name: SGS Environmental Services, Inc.

Laboratory Report Numbers: 1084979



**SGS Environmental Services
Alaska Division
Level II Laboratory Data Report**

Project: 11369-002 Eliz Rd. Oct. 08
Client: Shannon & Wilson-Fairbanks
SGS Work Order: 1085947

Released by:

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

Client SHANFBK Shannon & Wilson-Fairbanks
Workorder 1085947 11369-002 Eliz Rd. Oct. 08

Printed Date/Time 10:22:2008 10:53

Sample ID Client Sample ID

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

863177 LCS LCS for HBN 207248 [VXX/18850]
524.2 - LCS recovery for several analytes does not meet QC goals (biased high). These analytes were not detected above the PQL in the associated samples.

863178 LCSD LCSD for HBN 207248 [VXX/18850]
524.2 - LCSD recovery for several analytes does not meet QC goals (biased high). These analytes were not detected above the PQL in the associated samples.

863182 CCV CCV for HBN 207250 [VMS/10187]
524.2 - CCV recovery for several analytes does not meet QC goals (biased high). These analytes were not detected above the PQL in the associated samples.
524.2 - ICV recovery for several analytes does not meet QC goals (biased high) These analytes were not detected above the PQL in the associated samples.

863183 CCV CCV for HBN 207250 [VMS/10187]
524.2 - CCV recovery for several analytes does not meet QC goals (biased high) These analytes were not detected above the PQL in the associated samples.

865281 MB MB for HBN 207828 [XXX/20222]
AK103 - MB result is greater than one-half the PQL, but less than PQL.

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.us.sgs.com>

Mark Lockwood
Shannon & Wilson-Fairbanks
2355 Hill Rd
Fairbanks, AK 99709

Work Order:	1085947	
	11369-002 Eliz Rd. Oct. 08	Released by:
Client:	Shannon & Wilson-Fairbanks	
Report Date:	October 22, 2008	

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request.

The laboratory certification numbers are AK971-05 (DW), UST-005 (CS) and AK00971 (Micro) for ADEC and AK100001 for NELAP (RCRA methods: 1020A, 1311, 6010B, 7470A, 7471A, 9040B, 9045C, 9056, 9060, 9065, 8015B, 8021B, 8081A/8082, 8260B, 8270C).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP, the National Environmental Laboratory Accreditation Program and, when applicable, other regulatory authorities.

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.

The following descriptors may be found on your report which will serve to further qualify the data.

PQL	Practical Quantitation Limit (reporting limit).
U	Indicates the analyte was analyzed for but not detected.
F	Indicates value that is greater than or equal to the MDL.
J	The quantitation is an estimation.
ND	Indicates the analyte is not detected.
B	Indicates the analyte is found in a blank associated with the sample.
*	The analyte has exceeded allowable regulatory or control limits.
GT	Greater Than
D	The analyte concentration is the result of a dilution.
LT	Less Than
!	Surrogate out of control limits.
Q	QC parameter out of acceptance range.
M	A matrix effect was present.
JL	The analyte was positively identified, but the quantitation is a low estimation.
E	The analyte result is above the calibrated range.
R	Rejected

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content.



SGS Ref.# 1085947001
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID 1369-007
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 17:51
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Toluene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	87		%	SW8021B	A	80-120	10/09/08	10/09/08	HM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.400	mg/L	AK102	D		10/16/08	10/18/08	HKG
<u>Surrogates</u>									
5a Androstane <surr>	85.7		%	AK102	D	50-150	10/16/08	10/18/08	HKG



SGS Ref.# 1085947002
Client Name Shannon & Wilson-Fairbanks
Project Name# 11369-002 Eliz Rd. Oct. 08
Client Sample ID 1369-008
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 18:00
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Toluene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
<u>Surrogates</u>									
1,4-Difluorobenzene <surr>	87.3		%	SW8021B	A	80-120	10/09/08	10/09/08	HM
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.400	mg/L	AK102	D		10/16/08	10/18/08	HKG
<u>Surrogates</u>									
5a Androstane <surr>	81.7		%	AK102	D	50-150	10/16/08	10/18/08	HKG



SGS Ref.# 1085947003
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID 1369-009
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 18:13
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Semivolatile Organic Fuels Department</u>									
Diesel Range Organics	ND	0.400	mg/L	AK102	D		10/16/08	10/18/08	HKG
<u>Surrogates</u>									
5a Androstane <surr>	83.7		%	AK102	D	50-150	10/16/08	10/18/08	HKG
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>									
1,1,1,2-Tetrachloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1,1-Trichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<200)	10/07/08	10/07/08	DSH
1,1,2,2-Tetrachloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1,2-Trichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,1-Dichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<7)	10/07/08	10/07/08	DSH
1,1-Dichloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,3-Trichlorobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,4-Trichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<70)	10/07/08	10/07/08	DSH
1,2,3-Trichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,4-Trimethylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dibromo-3-chloropropane	ND	2.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dibromoethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<600)	10/07/08	10/07/08	DSH
1,2-Dichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,3,5-Trimethylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,3-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,3-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
2,2-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,4-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<75)	10/07/08	10/07/08	DSH



SGS Ref.# 1085947003
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Client Sample ID 1369-009
 Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
 Collected Date/Time 10/02/2008 18:13
 Received Date/Time 10/04/2008 10:20
 Technical Director Stephen C. Ede

PWSID 0

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
2-Chlorotoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
4-Chlorotoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
4-Isopropyltoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Benzene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Bromobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromodichloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromochloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromoform	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromomethane	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Carbon tetrachloride	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Chlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
Chloroethane	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Chloroform	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Chloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
cis-1,3-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
cis-1,2-Dichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<70)	10/07/08	10/07/08	DSH
Dibromochloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Dibromomethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Dichlorodifluoromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Ethylbenzene	ND	0.500	ug/L	EPA 524.2	A	(<700)	10/07/08	10/07/08	DSH
Hexachlorobutadiene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Isopropylbenzene (Cumene)	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Methylene chloride	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Methyl-t-butyl ether	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
n-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
n-Propylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
o-Xylene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Naphthalene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
P & M -Xylene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
sec-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH



SGS Ref.# 1085947003
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID 1369-009
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 18:13
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy

Styrene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
tert-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Tetrachloroethene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Toluene	ND	0.500	ug/L	EPA 524.2	A	(<1000)	10/07/08	10/07/08	DSH
Total Trihalomethanes	ND	2.00	ug/L	EPA 524.2	A	(<80)	10/07/08	10/07/08	DSH
trans-1,2-Dichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
trans-1,3-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Trichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Trichlorofluoromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Vinyl chloride	ND	0.400	ug/L	EPA 524.2	A	(<2)	10/07/08	10/07/08	DSH
Xylenes (total)	ND	1.00	ug/L	EPA 524.2	A	(<10000)	10/07/08	10/07/08	DSH

Surrogates

1,2-Dichloroethane-D4 <surr>	105		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSH
4-Bromofluorobenzene <surr>	109		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSH
Toluene-d8 <surr>	97.3		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSH



SGS Ref.# 1085947004
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID TRIP BLANK
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 17:51
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Fuels Department</u>									
Benzene	ND	0.500	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Toluene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Ethylbenzene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
o-Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
P & M -Xylene	ND	2.00	ug/L	SW8021B	A		10/09/08	10/09/08	HM
Surrogates									
1,4-Difluorobenzene <surr>	87.4		%	SW8021B	A	80-120	10/09/08	10/09/08	HM



SGS Ref.# 1085947005
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID TRIP BLANK
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 17:51
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Sample Remarks:

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Volatile Gas Chromatography/Mass Spectroscopy									
1,1,1,2-Tetrachloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1,1-Trichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<200)	10/07/08	10/07/08	DSH
1,1,2,2-Tetrachloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1,2-Trichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,1-Dichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<7)	10/07/08	10/07/08	DSH
1,1-Dichloroethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,1-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,3-Trichlorobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,4-Trichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<70)	10/07/08	10/07/08	DSH
1,2,3-Trichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2,4-Trimethylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dibromo-3-chloropropane	ND	2.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dibromoethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<600)	10/07/08	10/07/08	DSH
1,2-Dichloroethane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,3,5-Trimethylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,2-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
1,3-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,3-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
2,2-Dichloropropane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
1,4-Dichlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<75)	10/07/08	10/07/08	DSH
2-Chlorotoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
4-Chlorotoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
4-Isopropyltoluene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Benzene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Bromobenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromodichloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromochloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH



SGS Ref.# 1085947005
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID TRIP BLANK
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 17:51
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>									
Bromoform	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Bromomethane	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Carbon tetrachloride	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Chlorobenzene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
Chloroethane	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Chloroform	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Chloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
cis-1,3-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
cis-1,2-Dichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<70)	10/07/08	10/07/08	DSH
Dibromochloromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Dibromomethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Dichlorodifluoromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Ethylbenzene	ND	0.500	ug/L	EPA 524.2	A	(<700)	10/07/08	10/07/08	DSH
Hexachlorobutadiene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Isopropylbenzene (Cumene)	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Methylene chloride	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Methyl-1-butyl ether	ND	1.00	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
n-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
n-Propylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
o-Xylene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Naphthalene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
P & M -Xylene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
sec-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Styrene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
tert-Butylbenzene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Tetrachloroethene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSH
Toluene	ND	0.500	ug/L	EPA 524.2	A	(<1000)	10/07/08	10/07/08	DSH
Total Trihalomethanes	ND	2.00	ug/L	EPA 524.2	A	(<80)	10/07/08	10/07/08	DSH
trans-1,2-Dichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<100)	10/07/08	10/07/08	DSH
trans-1,3-Dichloropropene	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH



SGS Ref.# 1085947005
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Client Sample ID TRIP BLANK
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Collected Date/Time 10/02/2008 17:51
Received Date/Time 10/04/2008 10:20
Technical Director Stephen C. Ede

PWSID 0

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
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Volatile Gas Chromatography/Mass Spectroscopy

Trichloroethene	ND	0.500	ug/L	EPA 524.2	A	(<5)	10/07/08	10/07/08	DSII
Trichlorofluoromethane	ND	0.500	ug/L	EPA 524.2	A		10/07/08	10/07/08	DSH
Vinyl chloride	ND	0.400	ug/L	EPA 524.2	A	(<2)	10/07/08	10/07/08	DSII
Xylenes (total)	ND	1.00	ug/L	EPA 524.2	A	(<10000)	10/07/08	10/07/08	DSH

Surrogates

1,2-Dichloroethane-D4 <surr>	102		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSH
4-Bromofluorobenzene <surr>	107		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSH
Toluene-d8 <surr>	96.5		%	EPA 524.2	A	70-130	10/07/08	10/07/08	DSII



SGS Ref.# 863176 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Prep Batch VXX18850
Method SW5030B
Date 10/07/2008

QC results affect the following production samples:
1085947003, 1085947005

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
Volatile Gas Chromatography/Mass Spectroscopy					
1,1,1,2-Tetrachloroethane	ND	0.500	0.150	ug/L	10/07/08
1,1,1-Trichloroethane	ND	0.500	0.150	ug/L	10/07/08
1,1,2,2-Tetrachloroethane	ND	0.500	0.150	ug/L	10/07/08
1,1,2-Trichloroethane	ND	0.500	0.150	ug/L	10/07/08
1,1-Dichloroethene	ND	0.500	0.150	ug/L	10/07/08
1,1-Dichloroethane	ND	0.500	0.150	ug/L	10/07/08
1,1-Dichloropropene	ND	0.500	0.150	ug/L	10/07/08
1,2,3-Trichlorobenzene	ND	0.500	0.150	ug/L	10/07/08
1,2,4-Trichlorobenzene	ND	0.500	0.150	ug/L	10/07/08
1,2,3-Trichloropropane	ND	0.500	0.150	ug/L	10/07/08
1,2,4-Trimethylbenzene	ND	0.500	0.150	ug/L	10/07/08
1,2-Dibromo-3-chloropropane	ND	2.00	0.620	ug/L	10/07/08
1,2-Dibromoethane	ND	0.500	0.150	ug/L	10/07/08
1,2-Dichlorobenzene	ND	0.500	0.150	ug/L	10/07/08
1,2-Dichloroethane	ND	0.500	0.150	ug/L	10/07/08
1,3,5-Trimethylbenzene	ND	0.500	0.150	ug/L	10/07/08
1,2-Dichloropropane	ND	0.500	0.150	ug/L	10/07/08
1,3-Dichlorobenzene	ND	0.500	0.150	ug/L	10/07/08
1,3-Dichloropropane	ND	0.500	0.150	ug/L	10/07/08
2,2-Dichloropropane	ND	0.500	0.150	ug/L	10/07/08
1,4-Dichlorobenzene	ND	0.500	0.150	ug/L	10/07/08
2-Chlorotoluene	ND	0.500	0.150	ug/L	10/07/08
4-Chlorotoluene	ND	0.500	0.150	ug/L	10/07/08
4-Isopropyltoluene	ND	0.500	0.150	ug/L	10/07/08
Benzene	ND	0.500	0.150	ug/L	10/07/08
Bromobenzene	ND	0.500	0.150	ug/L	10/07/08
Bromodichloromethane	ND	0.500	0.150	ug/L	10/07/08
Bromochloromethane	ND	0.500	0.150	ug/L	10/07/08
Bromoform	ND	0.500	0.150	ug/L	10/07/08
Bromomethane	ND	1.00	0.310	ug/L	10/07/08
Carbon tetrachloride	ND	0.500	0.150	ug/L	10/07/08
Chlorobenzene	ND	0.500	0.150	ug/L	10/07/08
Chloroethane	ND	1.00	0.310	ug/L	10/07/08
Chloroform	ND	0.500	0.150	ug/L	10/07/08
Chloromethane	ND	0.500	0.150	ug/L	10/07/08
cis-1,3-Dichloropropene	ND	0.500	0.150	ug/L	10/07/08



SGS Ref.# 863176 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
Prep Batch VXX18850
Method SW5030B
Date 10/07/2008

Parameter	Results	Reporting Control Limit	MDL	Units	Analyst Date
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Volatile Gas Chromatography/Mass Spectroscopy

cis-1,2-Dichloroethene	ND	0.500	0.150	ug/L	10/07/08
Dibromochloromethane	ND	0.500	0.150	ug/L	10/07/08
Dibromomethane	ND	0.500	0.150	ug/L	10/07/08
Dichlorodifluoromethane	ND	0.500	0.150	ug/L	10/07/08
Ethylbenzene	ND	0.500	0.150	ug/L	10/07/08
Hexachlorobutadiene	ND	0.500	0.150	ug/L	10/07/08
Isopropylbenzene (Cumene)	ND	0.500	0.150	ug/L	10/07/08
Methylene chloride	ND	0.500	0.150	ug/L	10/07/08
Methyl-t-butyl ether	ND	1.00	0.500	ug/L	10/07/08
n-Butylbenzene	ND	0.500	0.150	ug/L	10/07/08
n-Propylbenzene	ND	0.500	0.150	ug/L	10/07/08
o-Xylene	ND	0.500	0.150	ug/L	10/07/08
Naphthalene	ND	0.500	0.150	ug/L	10/07/08
P & M -Xylene	ND	0.500	0.150	ug/L	10/07/08
sec-Butylbenzene	ND	0.500	0.150	ug/L	10/07/08
Styrene	ND	0.500	0.150	ug/L	10/07/08
ter-Butylbenzene	ND	0.500	0.150	ug/L	10/07/08
Tetrachloroethene	ND	0.500	0.150	ug/L	10/07/08
Toluene	ND	0.500	0.150	ug/L	10/07/08
trans-1,2-Dichloroethene	ND	0.500	0.150	ug/L	10/07/08
trans-1,3-Dichloropropene	ND	0.500	0.150	ug/L	10/07/08
Trichloroethene	ND	0.500	0.150	ug/L	10/07/08
Trichlorofluoromethane	ND	0.500	0.150	ug/L	10/07/08
Vinyl chloride	ND	0.400	0.120	ug/L	10/07/08

Surrogates

1,2-Dichloroethane-D4 <surr>	106	70-130		%	10/07/08
4-Bromofluorobenzene <surr>	112	70-130		%	10/07/08
Toluene-d8 <surr>	98.5	70-130		%	10/07/08

Batch VMS10187
Method EPA 524.2
Instrument HP 5890 Series II MS3 VKA



SGS Ref.# 864196 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Prep Batch VXX18866
Method SW5030B
Date 10/09/2008

QC results affect the following production samples:

1085947001, 1085947002, 1085947004

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Fuels Department

Surrogates

4-Bromofluorobenzene <surr>	94	50-150		%	10/09/08
Batch	VFC9205				
Method	AK101				
Instrument	HP 5890 Series II PID+HECD VBA				

Benzene	ND	0.500	0.150	ug/L	10/09/08
Toluene	ND	2.00	0.620	ug/L	10/09/08
Ethylbenzene	ND	2.00	0.620	ug/L	10/09/08
o-Xylene	ND	2.00	0.620	ug/L	10/09/08
P & M -Xylene	ND	2.00	0.620	ug/L	10/09/08

Surrogates

1,4-Difluorobenzene <surr>	89.2	80-120		%	10/09/08
Batch	VFC9205				
Method	SW8021B				
Instrument	HP 5890 Series II PID+HECD VBA				



SGS Ref.# 864201 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Prep Batch VXX18866
Method SW5030B
Date 10/09/2008

QC results affect the following production samples:
1085947001, 1085947002, 1085947004

Parameter	Results	Reporting/Control Limit	MDL	Units	Analysis Date
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Volatile Fuels Department

Surrogates

4-Bromofluorobenzene <surr>	95.4	50-150		%	10/09/08
Batch	VFC9205				
Method	AK101				
Instrument	HP 5890 Series II PID+HECD VBA				

Benzene	ND	0.500	0.150	ug/L	10/09/08
Toluene	ND	2.00	0.620	ug/L	10/09/08
Ethylbenzene	ND	2.00	0.620	ug/L	10/09/08
o-Xylene	ND	2.00	0.620	ug/L	10/09/08
P & M -Xylene	ND	2.00	0.620	ug/L	10/09/08

Surrogates

1,4-Difluorobenzene <surr>	88.5	80-120		%	10/09/08
Batch	VFC9205				
Method	SW8021B				
Instrument	HP 5890 Series II PID+HECD VBA				



SGS Ref.# 865281 Method Blank
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Prep Batch XXX20222
Method SW3520C
Date 10/16/2008

QC results affect the following production samples:
1085947001, 1085947002, 1085947003

Parameter	Results	Reporting Control Limit	MDL	Units	Analysis Date
<u>Semivolatile Organic Fuels Department</u>					
Diesel Range Organics	0.160 J	0.400	0.0800	mg/L	10/18/08
Surrogates					
5a Androstane <surrogate>	86.5	60-120		%	10/18/08
Batch	XFC8281				
Method	AK102				
Instrument	HP 5890 Series II FID SV D R				



SGS Ref.# 863177 Lab Control Sample
 863178 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
 Prep Batch VXX18850
 Method SW5030B
 Date 10/07/2008

QC results affect the following production samples:
 1085947003, 1085947005

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 4.85	97	(70-130)			5 ug/L	10/07/2008
	LCSD 4.55	91		6	(< 30)	5 ug/L	10/07/2008
1,1,1-Trichloroethane	LCS 5.31	106	(70-130)			5 ug/L	10/07/2008
	LCSD 4.94	99		7	(< 30)	5 ug/L	10/07/2008
1,1,2,2-Tetrachloroethane	LCS 4.66	93	(70-130)			5 ug/L	10/07/2008
	LCSD 4.34	87		7	(< 30)	5 ug/L	10/07/2008
1,1,2-Trichloroethane	LCS 4.51	90	(70-130)			5 ug/L	10/07/2008
	LCSD 4.61	92		2	(< 30)	5 ug/L	10/07/2008
1,1-Dichloroethene	LCS 4.91	98	(70-130)			5 ug/L	10/07/2008
	LCSD 4.73	95		4	(< 30)	5 ug/L	10/07/2008
1,1-Dichloroethane	LCS 4.85	97	(70-130)			5 ug/L	10/07/2008
	LCSD 4.75	95		2	(< 30)	5 ug/L	10/07/2008
1,1-Dichloropropene	LCS 5.35	107	(70-130)			5 ug/L	10/07/2008
	LCSD 5.18	104		3	(< 30)	5 ug/L	10/07/2008
1,2,3-Trichlorobenzene	LCS 4.52	90	(70-130)			5 ug/L	10/07/2008
	LCSD 5.08	102		12	(< 30)	5 ug/L	10/07/2008
1,2,4-Trichlorobenzene	LCS 4.95	99	(70-130)			5 ug/L	10/07/2008
	LCSD 5.12	102		3	(< 30)	5 ug/L	10/07/2008
1,2,3-Trichloropropane	LCS 4.96	99	(70-130)			5 ug/L	10/07/2008
	LCSD 4.84	97		2	(< 30)	5 ug/L	10/07/2008
1,2,4-Trimethylbenzene	LCS 5.25	105	(70-130)			5 ug/L	10/07/2008
	LCSD 4.99	100		5	(< 30)	5 ug/L	10/07/2008
1,2-Dibromo-3-chloropropane	LCS 4.56	91	(70-130)			5 ug/L	10/07/2008
	LCSD 4.94	99		8	(< 30)	5 ug/L	10/07/2008
1,2-Dibromoethane	LCS 4.39	88	(70-130)			5 ug/L	10/07/2008
	LCSD 4.61	92		5	(< 30)	5 ug/L	10/07/2008



SGS Ref.# 863177 Lab Control Sample
 863178 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
 Prep Batch VXX18850
 Method SW5030B
 Date 10/07/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>							
1,2-Dichlorobenzene	LCS	4.99	100	(70-130)		5 ug/L	10/07/2008
	LCSD	4.68	94		6	(< 30)	5 ug/L 10/07/2008
1,2-Dichloroethane	LCS	5.04	101	(70-130)		5 ug/L	10/07/2008
	LCSD	4.54	91		10	(< 30)	5 ug/L 10/07/2008
1,3,5-Trimethylbenzene	LCS	5.55	111	(70-130)		5 ug/L	10/07/2008
	LCSD	5.15	103		8	(< 30)	5 ug/L 10/07/2008
1,2-Dichloropropane	LCS	4.78	96	(70-130)		5 ug/L	10/07/2008
	LCSD	4.87	97		2	(< 30)	5 ug/L 10/07/2008
1,3-Dichlorobenzene	LCS	4.95	99	(70-130)		5 ug/L	10/07/2008
	LCSD	4.91	98		1	(< 30)	5 ug/L 10/07/2008
1,3-Dichloropropane	LCS	4.52	90	(70-130)		5 ug/L	10/07/2008
	LCSD	4.52	90		0	(< 30)	5 ug/L 10/07/2008
2,2-Dichloropropane	LCS	5.46	109	(70-130)		5 ug/L	10/07/2008
	LCSD	4.98	100		9	(< 30)	5 ug/L 10/07/2008
1,4-Dichlorobenzene	LCS	5.02	100	(70-130)		5 ug/L	10/07/2008
	LCSD	4.76	95		5	(< 30)	5 ug/L 10/07/2008
2-Chlorotoluene	LCS	5.18	104	(70-130)		5 ug/L	10/07/2008
	LCSD	5.00	100		4	(< 30)	5 ug/L 10/07/2008
4-Chlorotoluene	LCS	5.38	108	(70-130)		5 ug/L	10/07/2008
	LCSD	5.26	105		2	(< 30)	5 ug/L 10/07/2008
4-Isopropyltoluene	LCS	5.42	108	(70-130)		5 ug/L	10/07/2008
	LCSD	5.16	103		5	(< 30)	5 ug/L 10/07/2008
Benzene	LCS	4.82	96	(70-130)		5 ug/L	10/07/2008
	LCSD	4.67	93		3	(< 30)	5 ug/L 10/07/2008
Bromobenzene	LCS	5.02	100	(70-130)		5 ug/L	10/07/2008
	LCSD	4.91	98		2	(< 30)	5 ug/L 10/07/2008
Bromodichloromethane	LCS	4.95	99	(70-130)		5 ug/L	10/07/2008
	LCSD	4.88	98		1	(< 30)	5 ug/L 10/07/2008



SGS Ref.# 863177 Lab Control Sample
 863178 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
 Prep Batch VXX18850
 Method SW5030B
 Date 10/07/2008

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

Bromochloromethane	LCS	5.36	107	(70-130)			5 ug/L	10/07/2008
	LCSD	4.41	88		19	(< 30)	5 ug/L	10/07/2008
Bromoform	LCS	4.54	91	(70-130)			5 ug/L	10/07/2008
	LCSD	4.78	96		5	(< 30)	5 ug/L	10/07/2008
Bromomethane	LCS	7.12	142 *	(70-130)			5 ug/L	10/07/2008
	LCSD	6.96	139 *		2	(< 30)	5 ug/L	10/07/2008
Carbon tetrachloride	LCS	5.21	104	(70-130)			5 ug/L	10/07/2008
	LCSD	5.06	101		3	(< 30)	5 ug/L	10/07/2008
Chlorobenzene	LCS	4.67	93	(70-130)			5 ug/L	10/07/2008
	LCSD	4.79	96		3	(< 30)	5 ug/L	10/07/2008
Chloroethane	LCS	9.77	195 *	(70-130)			5 ug/L	10/07/2008
	LCSD	9.13	183 *		7	(< 30)	5 ug/L	10/07/2008
Chloroform	LCS	5.06	101	(70-130)			5 ug/L	10/07/2008
	LCSD	4.56	91		10	(< 30)	5 ug/L	10/07/2008
Chloromethane	LCS	7.30	146 *	(70-130)			5 ug/L	10/07/2008
	LCSD	7.58	152 *		4	(< 30)	5 ug/L	10/07/2008
cis-1,3-Dichloropropene	LCS	4.75	95	(70-130)			5 ug/L	10/07/2008
	LCSD	4.99	100		5	(< 30)	5 ug/L	10/07/2008
cis-1,2-Dichloroethene	LCS	4.61	92	(70-130)			5 ug/L	10/07/2008
	LCSD	4.61	92		0	(< 30)	5 ug/L	10/07/2008
Dibromochloromethane	LCS	4.62	92	(70-130)			5 ug/L	10/07/2008
	LCSD	4.53	91		2	(< 30)	5 ug/L	10/07/2008
Dibromomethane	LCS	4.97	99	(70-130)			5 ug/L	10/07/2008
	LCSD	4.79	96		4	(< 30)	5 ug/L	10/07/2008
Dichlorodifluoromethane	LCS	8.10	162 *	(70-130)			5 ug/L	10/07/2008
	LCSD	8.12	162 *		0	(< 30)	5 ug/L	10/07/2008
Ethylbenzene	LCS	4.95	99	(70-130)			5 ug/L	10/07/2008



SGS Ref.# 863177 Lab Control Sample
 863178 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Matrix Drinking Water

Printed Date/Time 10/22/2008 10:53
 Prep Batch VXX18850
 Method SW5030B
 Date 10/07/2008

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Gas Chromatography/Mass Spectroscopy</u>							
	LCSD 4.93	99		0	(< 30)	5 ug/L	10/07/2008
Hexachlorobutadiene	LCS 5.48	110	(70-130)			5 ug/L	10/07/2008
	LCSD 5.14	103		6	(< 30)	5 ug/L	10/07/2008
Isopropylbenzene (Cumene)	LCS 4.70	94	(70-130)			5 ug/L	10/07/2008
	LCSD 4.81	96		2	(< 30)	5 ug/L	10/07/2008
Methylene chloride	LCS 4.88	98	(70-130)			5 ug/L	10/07/2008
	LCSD 4.79	96		2	(< 30)	5 ug/L	10/07/2008
Methyl-t-butyl ether	LCS 6.97	93	(70-130)			7.5 ug/L	10/07/2008
	LCSD 6.59	88		6	(< 30)	7.5 ug/L	10/07/2008
n-Butylbenzene	LCS 5.53	111	(70-130)			5 ug/L	10/07/2008
	LCSD 5.44	109		2	(< 30)	5 ug/L	10/07/2008
n-Propylbenzene	LCS 5.37	107	(70-130)			5 ug/L	10/07/2008
	LCSD 5.20	104		3	(< 30)	5 ug/L	10/07/2008
o-Xylene	LCS 4.48	90	(70-130)			5 ug/L	10/07/2008
	LCSD 4.49	90		0	(< 30)	5 ug/L	10/07/2008
Naphthalene	LCS 4.53	91	(70-130)			5 ug/L	10/07/2008
	LCSD 5.09	102		12	(< 30)	5 ug/L	10/07/2008
P & M -Xylene	LCS 9.60	96	(70-130)			10 ug/L	10/07/2008
	LCSD 9.79	98		2	(< 30)	10 ug/L	10/07/2008
sec-Butylbenzene	LCS 5.41	108	(70-130)			5 ug/L	10/07/2008
	LCSD 5.20	104		4	(< 30)	5 ug/L	10/07/2008
Styrene	LCS 4.27	85	(70-130)			5 ug/L	10/07/2008
	LCSD 4.71	94		10	(< 30)	5 ug/L	10/07/2008
tert-Butylbenzene	LCS 5.31	106	(70-130)			5 ug/L	10/07/2008
	LCSD 5.30	106		0	(< 30)	5 ug/L	10/07/2008
Tetrachloroethene	LCS 5.13	103	(70-130)			5 ug/L	10/07/2008
	LCSD 4.90	98		5	(< 30)	5 ug/L	10/07/2008



SGS Ref.#	863177	Lab Control Sample	Printed Date/Time	10/22/2008	10:53
	863178	Lab Control Sample Duplicate	Prep	Batch	VXX18850
Client Name	Shannon & Wilson-Fairbanks		Method	SW5030B	
Project Name/#	11369-002 Eliz Rd. Oct. 08		Date	10/07/2008	
Matrix	Drinking Water				

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

Toluene	LCS	4.81	96	(70-130)			5 ug/L	10/07/2008
	LCSD	4.90	98		2	(< 30)	5 ug/L	10/07/2008
trans-1,2-Dichloroethene	LCS	5.18	104	(70-130)			5 ug/L	10/07/2008
	LCSD	4.67	93		10	(< 30)	5 ug/L	10/07/2008
trans-1,3-Dichloropropene	LCS	4.93	99	(70-130)			5 ug/L	10/07/2008
	LCSD	5.03	101		2	(< 30)	5 ug/L	10/07/2008
Trichloroethene	LCS	5.04	101	(70-130)			5 ug/L	10/07/2008
	LCSD	5.09	102		1	(< 30)	5 ug/L	10/07/2008
Trichlorofluoromethane	LCS	6.35	127	(70-130)			5 ug/L	10/07/2008
	LCSD	5.87	117		8	(< 30)	5 ug/L	10/07/2008
Vinyl chloride	LCS	6.62	132 *	(70-130)			5 ug/L	10/07/2008
	LCSD	6.89	138 *		4	(< 30)	5 ug/L	10/07/2008
Surrogates								
1,2-Dichloroethane-D4 <surr>	LCS		101	(70-130)				10/07/2008
	LCSD		98		3			10/07/2008
4-Bromofluorobenzene <surr>	LCS		102	(70-130)				10/07/2008
	LCSD		102		0			10/07/2008
Toluene-d8 <surr>	LCS		96	(70-130)				10/07/2008
	LCSD		101		5			10/07/2008

Batch VMS10187
Method EPA 524.2
Instrument IIP 5890 Series II MS3 VKA



SGS Ref.# 864197 Lab Control Sample
 864198 Lab Control Sample Duplicate
 Client Name Shannon & Wilson-Fairbanks
 Project Name/# 11369-002 Eliz Rd. Oct. 08
 Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
 Prep Batch VXX18866
 Method SW5030B
 Date 10/09/2008

QC results affect the following production samples:
 1085947001, 1085947002, 1085947004

Parameter	QC Results	Pct Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
<u>Volatile Fuels Department</u>							
Benzene	LCS 106	106	(80-120)			100 ug/L	10/09/2008
	LCSD 108	108		2	(< 20)	100 ug/L	10/09/2008
Toluene	LCS 105	105	(80-120)			100 ug/L	10/09/2008
	LCSD 109	109		4	(< 20)	100 ug/L	10/09/2008
Ethylbenzene	LCS 108	108	(87-125)			100 ug/L	10/09/2008
	LCSD 110	110		2	(< 20)	100 ug/L	10/09/2008
o-Xylene	LCS 104	104	(85-120)			100 ug/L	10/09/2008
	LCSD 105	105		2	(< 20)	100 ug/L	10/09/2008
P & M -Xylene	LCS 214	107	(87-125)			200 ug/L	10/09/2008
	LCSD 217	109		2	(< 20)	200 ug/L	10/09/2008
Surrogates							
1,4-Difluorobenzene <surrogate>	LCS	95	(80-120)				10/09/2008
	LCSD	97		2			10/09/2008

Batch VFC9205
 Method SW8021B
 Instrument HP 5890 Series II PID+HECD VBA



SGS Ref.# 865282 Lab Control Sample
865283 Lab Control Sample Duplicate
Client Name Shannon & Wilson-Fairbanks
Project Name/# 11369-002 Eliz Rd. Oct. 08
Matrix Water (Surface, Eff., Ground)

Printed Date/Time 10/22/2008 10:53
Prep Batch XXX20222
Method SW3520C
Date 10/16/2008

QC results affect the following production samples:
1085947001, 1085947002, 1085947003

Parameter	QC Results	Pet Recov	LCS/LCSD Limits	RPD	RPD Limits	Spiked Amount	Analysis Date
Semivolatile Organic Fuels Department							
Diesel Range Organics	LCS	18.4	92	(75-125)		20 mg/L	10/18/2008
	LCSD	17.3	87		6	(< 20)	20 mg/L 10/18/2008
Surrogates							
5a Androstane <surr>	LCS		95	(60-120)			10/18/2008
	LCSD		91		5		10/18/2008

Batch XFC8281
Method AK102
Instrument HP 5890 Series II FID SV D R



Shannon & Wilson, Inc.

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(206) 632-8020

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(314) 872-8170

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Fairbanks, AK 99707
(907) 479-0600

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1085947



Study Record

Page 1 of 1
Laboratory SGS
Attn:

Analysis Parameters/Sample Container Description (Include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp.	Grab	DRO	BTEX	VOC (S24.2)	Total Number of Containers	Remarks/Matrix
1369-007	① A-E	17:51	10/2/08	X	X	X			5	W
1369-008	② A-E	18:00	↓	X	X	X			5	
1369-009	③ A-E	18:13	↓	X	X		X		5	drinking H ₂ O
trip blanks	④ A-E ⑤ A, B	—	10/2/08			X	X		3	↓

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Project Number: 1369-002	Total Number of Containers: 18	COC Seals/Intact? Y/N/NA		Signature: <i>[Signature]</i> Time: 1010	Signature: <i>[Signature]</i> Time: 1020	Signature:	Time:	Signature:	Time:
Project Name: Eliz Rd. 0608	Contact: Mark Lockwood	Received Good Cond./Cold		Printed Name: Kristin R Williams Date: 10/3/08	Printed Name: CARMON BRANE Date: 10/3/08	Printed Name:	Date:	Printed Name:	Date:
Ongoing Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Sampler: KAW/RDG	Delivery Method: Hand (attach shipping bill, if any)		Company: Shannon & Wilson	Company: SGS	Company:		Company:	
Instructions				Received By: 1.		Received By: 2.		Received By: 3.	
Requested Turn Around Time: std.				Signature: <i>[Signature]</i> Time: 1010	Signature:	Time:	Signature: <i>[Signature]</i> Time: 1020	Signature:	Time:
Special Instructions: Level II Deliverable				Printed Name: CARMON BRANE Date: 10/3/08	Printed Name:	Date:	Printed Name: Annie Adams Date: 10/4/08	Printed Name:	Date:
Distribution: White - w/shipment - returned to Shannon & Wilson w/ Laboratory report Yellow - w/shipment - for consignee files Pink - Shannon & Wilson - Job File				Company: SGS	Company:		Company: SGS	Company:	

FBXB TB=4.1
C=5.3



SAMPLE RECEIPT FORM

SGS WO#:

Yes No NA

- Are samples RUSH, priority or w/in 72 hrs of hold time?
- If yes, have you done e-mail ALERT notification?
- Are samples within 24 hrs. of hold time or due date?
- If yes, have you also spoken with supervisor?
- Archiving bottles (if req'd): Are they properly marked?
- Are there any problems? PM Notified?
- Were samples preserved correctly and pH verified?

- If this is for PWS, provide PWSID.
- Will courier charges apply?
- Method of payment?
- Data package required? (Level: 1 / 2 / 3 / 4)
- Notes:
- Is this a DoD project? (USACE, Navy, AFCEE)

TAT (circle one): Standard or- Rush
 Received Date: 10/03/95
 Received Time: 1010
 Is date/time conversion necessary? NO
 # of hours to AK Local Time: N/A
 Thermometer ID: FBLB

Cooler ID	Temp Blank	Cooler Temp
1	41 °C	53 °C
	°C	°C
	°C	°C
	°C	°C
	°C	°C

Note: Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client
 Alert Courier / UPS / FedEx / USPS / DHL /
 AA Goldstreak / NAC / ERA / PenAir / Carllie /
 Lynden / SGS / Other:

Airbill #

- Additional Sample Remarks: (✓if applicable)
- Extra Sample Volume?
 - Limited Sample Volume?
 - MeOH field preserved for volatiles?
 - Field-filtered for dissolved
 - Lab-filtered for dissolved
 - Ref Lab required?
 - Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes	No		Samples/Analyses Affected:
<input type="checkbox"/>	<input type="checkbox"/>	Is received temperature $4 \pm 2^\circ\text{C}$?	
<input type="checkbox"/>	<input type="checkbox"/>	Exceptions:	
<input type="checkbox"/>	<input type="checkbox"/>	If temperature(s) $< 0^\circ\text{C}$, were containers ice-free? <u>N/A</u> <i>Notify PM immediately of any ice in samples</i>	
<input type="checkbox"/>	<input type="checkbox"/>	Was there an airbill? <i>(Note # - above in the right hand column)</i>	
<input type="checkbox"/>	<input type="checkbox"/>	Was cooler sealed with custody seals? # / where:	
<input type="checkbox"/>	<input type="checkbox"/>	Were seal(s) intact upon arrival?	
<input type="checkbox"/>	<input type="checkbox"/>	Was there a COC with cooler?	
<input type="checkbox"/>	<input type="checkbox"/>	Was COC sealed in plastic bag & taped inside lid of cooler?	
<input type="checkbox"/>	<input type="checkbox"/>	Was the COC filled out properly?	
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC indicate USACE / Navy / AFCEE project?	
<input type="checkbox"/>	<input type="checkbox"/>	Did the COC and samples correspond?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all sample packed to prevent breakage? Packing material:	
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples unbroken and clearly labeled?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all samples sealed in separate plastic bags?	
<input type="checkbox"/>	<input type="checkbox"/>	Were all VOCs free of headspace and/or MeOH preserved?	
<input type="checkbox"/>	<input type="checkbox"/>	Were correct container / sample sizes submitted?	
<input type="checkbox"/>	<input type="checkbox"/>	Is sample condition good?	
<input type="checkbox"/>	<input type="checkbox"/>	Was copy of CoC, SRF, and custody seals given to PM to fax?	

This section must be filled if problems are found.

Yes No
 Was client notified of problems?

Individual contacted: _____
 Via: Phone / Fax / Email (circle one)
 Date/Time: _____
 Reason for contact: _____

Change Order Required? _____
 SGS Contact: _____

Notes:

Completed by (sign): Carmon Beene
 LogIn proof (check one): waived required

(print): CARMON BEENE
 performed by: David Johnson



SAMPLE RECEIPT FORM FOR TRANSFERS
From
FAIRBANKS, ALASKA OR HONOLULU, HAWAII
To
ANCHORAGE, AK

TO BE COMPLETED IN ANCHORAGE UPON ARRIVAL FROM FAIRBANKS OR HAWAII.
NOTES RECORDED BELOW ARE ACTIONS NEEDED UPON ARRIVAL IN ANCHORAGE.

Notes: _____

Receipt Date / Time: 10/4/08 1020
Is Sample Date/Time Conversion Necessary? Yes _____ No
Number of Hours From Alaska Local Time: NA
Foreign Soil? Yes _____ No

Delivery method to Anchorage (circle all that apply):
Alert Courier / UPS / FedEx / USPS / AA Goldstreak / NAC / ERA / PenAir / Carlisle / Lynden / SGS
Other: _____
Airbill # _____

#617

COOLER AND TEMP BLANK READINGS*

<u>Cooler ID</u>	<u>Temp Blank (°C)</u>	<u>Cooler (°C)</u>	<u>Cooler ID</u>	<u>Temp Blank (°C)</u>	<u>Cooler (°C)</u>
<u>1</u>	<u>1.7</u>	<u>1.2</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

CUSTODY SEALS INTACT: YES NO
#/ WHERE: 2 / 1 on front, 1 on back

COMPLETED BY: Janie Collins

*Temperature readings include thermometer correction factors.

SGS Environmental

CUSTODY SEAL

W0#5950

Signature: Camm Beene

Date/Time: 10/03/08 1645

SGS Environmental

CUSTODY SEAL

W0#5950

Signature: Camm Beene

Date/Time: 10/03/08 1645

SGS Environmental

CUSTODY SEAL

W0#5950

Signature: Camm Beene

Date/Time: 10/03/08 1645

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SGS Environmental

CUSTODY SEAL

W0#5950

Signature: Camm Beene

Date/Time: 10/03/08 1645

SGS Environmental

CUSTODY SEAL

W0#5950

Signature: Camm Beene

Date/Time: 10/03/08 1645

SGS Environmental

CUSTODY SEAL

W0#5948, 5947, 5950
5951

Signature: Camm Beene

Date/Time: 10/03/08 1645

1085947



SGS

Environmental

CUSTODY SEAL

Waste 5948 15947 15950
5951

Signature:

Carmon Beene

Date/Time:

10/03/08 11:45

SGS

Environmental

CUSTODY SEAL

Waste 5950

Signature:

Carmon Beene

Date/Time:

10/03/08 11:45

SGS

Environmental

CUSTODY SEAL

Waste 5950

Signature:

Carmon Beene

Date/Time:

10/03/08 11:45

Environmental

CUSTODY SEAL

Waste 5950

Carmon Beene

Date/Time:

10/03/08 11:45

1085947



LABORATORY DATA REVIEW CHECKLIST

(NOTE: NA = not applicable)

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses? Yes / No
- 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 / NA

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)? Yes / No
- b. Were the correct analyses requested? Yes / No

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)? Yes / No **Note:** The cooler and temperature blank temperatures were within range upon their receipt in Fairbanks, but those temperatures were below 2°C on their arrival at the laboratory in Anchorage. However, no ice was observed in the samples, and it is unlikely the analytical results were affected by the low temperatures.
- b. Sample preservation acceptable - acidified waters, MeOH-preserved VOC soil (GRO, BTEX, VOCs, etc.)? Yes / No
- c. Sample condition documented - broken, leaking (soil MeOH), zero headspace (VOC vials)? NA / Yes / No
- d. If there were any discrepancies, were they documented (e.g., incorrect sample containers/preservation, sample temperatures outside range, insufficient sample size, missing samples)? NA / Yes / No
- e. Data quality or usability affected? Yes (explain) No

4. Case Narrative

- a. Present and understandable? Yes / No (explain)

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- b. Discrepancies, errors or QC failures noted by the lab? NA Yes / No (explain)
- c. Were all corrective actions documented? NA / Yes / No (explain) – Note: No corrective actions were required.
- d. Is there an effect on data quality/usability, according to the case narrative?
NA No Yes (explain)

5. Sample Results

- a. Correct analyses performed/reported as requested on COC? Yes / No (explain)
- b. All applicable holding times met? Yes / No
- c. All soils reported on a dry-weight basis? NA / Yes / No
- d. Are the reported POLs less than the Cleanup Level or the minimum required detection level for the project? Yes / No (explain only for non-detects with elevated PQLs)
- e. Data quality or usability affected? No Yes (explain)

6. QC Samples

- a. Method Blank
 - i. Is at least one method blank (MB) reported per matrix, analysis, and 20 samples?
 Yes / No
 - ii. Are all method blank results less than PQL? Yes / No
 - iii. If MB above PQL, what samples are affected?
 - iv. Do the affected sample(s) have data flags? Yes / No NA
If so, are the data flags clearly defined? Yes / No NA
 - v. Are data quality or usability affected? No (i.e., MB data are acceptable) / Yes (Explain)
- b. Laboratory Control Sample/Duplicate (LCS/LCSD)
 - i. Organics - Is at least one LCS/LCSD reported per matrix, analysis, and 20 samples?
NA Yes / No
 - ii. Metals/Inorganics - Is at least one LCS and one sample duplicate reported per matrix, analysis and 20 samples? NA / Yes / No
 - iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits or project-specified DQOs? [AK petroleum methods %R < 20%; other analyses, refer to lab QC pages] Yes No (explain) — Note: the LCS/LCSD recoveries were

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above laboratory control limits for five analytes in the drinking-water analysis, but none of these analytes were detected in the project samples; the project-sample results were unaffected.

- iv. Precision – Are all relative percent differences (RPDs) reported and less than method or laboratory limits, or project-specified DQOs? Yes / No (explain)
- v. If %R or RPD is outside of acceptable limits, what samples are affected? NA or list
- vi. Do the affected samples(s) have data flags? NA / Yes / No (explain)
If so, are the data flags clearly defined?
- vii. Is the data quality or usability affected? No or explain.

c. Surrogates - Organics Only

- i. Are surrogate recoveries reported for organic analyses, including field, QC and laboratory samples? Yes / No
- ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits or project-specified DQOs? Yes / No
- iii. Do the sample results with failed surrogate recoveries have data flags? NA / Yes / No (explain)
If so, are the data flags clearly defined? Yes / No / NA
- iv. Is the data quality or usability affected? No or explain.

d. Trip Blank - Volatile analyses only (GRO, BTEX, VOCs, etc.)

- i. Is at least one trip blank (TB) reported per matrix, analysis and cooler? NA / Yes / No
- ii. Are all results less than the PQL? NA / Yes / No
- iii. If TB is above the PQL, what samples are affected? NA or list samples
- iv. Is the data quality or usability affected? No or explain.

e. Field Duplicate

- i. Was at least one field duplicate submitted per matrix, analysis and 10 project samples? Yes / No **Note: Field duplicate samples were 1369-007/1369-008.**
- ii. Were the field duplicates submitted blind to the lab? Yes / No / NA

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iii. Precision – Are all relative percent differences (RPDs) less than specified DQOs (recommended: 30% for water, 50% for soil) ? Yes / No / **NA** — Note: RPDs were not calculable because no analytes were detected in the samples.

iv. Is the data quality or usability affected? **No** / Yes (explain)

f. Decontamination or Equipment Blank (if applicable)

Not Applicable or...

i. Are all results less than the PQL? Yes / No

ii. If results are above PQL, what samples are affected? NA or list

iii. Is the data quality or usability affected? Explain.

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

Not applicable or ...

a. Are they defined and appropriate? Yes / No

Completed by: Jon Lindstrom, Ph.D.

Title: Environmental Chemist

Date: December 1, 2008

Consultant Firm: Shannon & Wilson, Inc.

CS Report Name: Eliz Road Groundwater Monitoring Report

Laboratory Report Date: October 22, 2008

Laboratory Name: SGS Environmental Services, Inc.

Laboratory Report Numbers: 1085947