



**SUSTAINABLE ENVIRONMENT, ENERGY,  
HEALTH & SAFETY PROFESSIONAL SERVICES**

May 20, 2016

Alaska Department of Environmental Conservation  
410 Willoughby Ave, Ste. 303  
Juneau, Alaska, 99811-1800

Sent via email to:  
bruce.wanstall@alaska.gov

ATTN: Bruce Wanstall

**RE: Gustavus Dray 1<sup>st</sup> Quarter 2016 Groundwater Sampling**

**Accounting Office:**  
2400 College Rd  
**Fairbanks, AK 99709**  
907.452.5688  
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Mr. Wanstall:

This letter report summarizes the field activities performed on March 30, 2016 at the Gustavus Dray Filling Station in Gustavus, Alaska. The purpose of this effort is to perform the first quarter 2016 Groundwater Monitoring at the six monitoring wells installed on the property.

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**Background**

*Site Location and Description*

The Gustavus Dray (the Site) consists of a single parcel of land covering an area of 4.76 acres with an address of 1 State Dock Road, which is used as a filling station, mechanic shop, and petroleum museum. The parcel is owned by Gustavus Dray Company Inc., which in turn is owned by Ed Cahill, Richard and Linda Levitt. The property is located at the "Four Corners" area of Gustavus at the intersection of State Dock Road and Gustavus Road.

The Site is located less than 0.5 miles from the Salmon River, which lies to the northwest. Surface water can also be present in the drainage ditches that surround the Site. Previous Site Investigations have shown gasoline and diesel contamination present at the Site due to leaky fuel system fittings at various portions of the system plumbing from the fuel storage tanks to the dispensers. During installation of groundwater monitoring wells, **NORTECH** personnel encountered groundwater at 7.5 feet below ground surface (bgs) at the Site. Regionally, groundwater flows in the direction of Icy Strait.

Sunnyside Market is located on a land parcel adjoining the Site to the south. The market is located at 3 State Dock Road and serves the community of Gustavus as an organic market. Sunnyside Market also sells prepared coffee and food, and is served by a domestic water well.

*Site Climate*

Historically, average temperatures in Gustavus range from a low of 18.5 °F in January to a high of 63.7 °F in July, average yearly precipitation is 54.76 inches and average yearly snowfall is 71.6 inches. The wettest months are September through November, with average monthly precipitation of 6.98, 8.55, and 6.27 inches respectively (Western Regional Climate Center).

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### Site Geology

Quaternary glacial events shaped the geology of the site. Surface sediments grade from glacial silt and sand at the beach, through sand across most of Gustavus, to sandy gravel at the Glacier Bay National Park boundary. Wells and other construction projects indicate that a riverine sequence is evident. Surface gravels and sands give way to silt, then mud and shell remnants. This is typical of river delta deposits over tidal mudflats. The Gustavus Dray Site is situated at 46 feet above sea level and is topographically flat.

Site soils are of recent glacial and fluvial depositional origin. The soil is comprised of well sorted medium to fine grained sand and silts. Glacial silts over three hundred feet thick lie under the silty sands.

### Site Groundwater and Surface Water

Groundwater well information for Gustavus suggests that groundwater can be found in a shallow “perched” layer at about six to 20 feet bgs, and is underlain by a silty glacial till layer reported to depths greater than 300 feet. Groundwater has generally been found at depths ranging from 4.2 to 10 feet bgs throughout the Site, fluctuating seasonally. Regional groundwater flow direction is generally to the south towards Icy Strait with localized deflections to the southwest draining towards the Salmon River.

### Field Activities

**NORTECH** Staff Professional Dumitru Radu mobilized to the site to conduct Quarterly Groundwater Monitoring activities on March 30, 2016. Five of the six groundwater monitoring wells are flush mount and accessed through the protective cap. Monitoring well MW-5 is an above ground mount protected by a steel casing. Upon opening each well, the water level was measured in order to calculate volume within the well. Table 1 below lists water levels and calculated purge volumes. Purge water was collected into a five gallon bucket with the use of a peristaltic pump. The flow rate of the pump was adjusted to be in equilibrium with the recharge rate of the well, thereby not creating drawdown. The tubing was placed 2”-3” below water surface during purging and sampling. Table 1 includes well and purge information for all groundwater monitoring wells.

**Table 1: Water levels and calculated well volumes**

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
Depth of Well (feet)	15.29	10.29	10.48	10.29	12.60	10.38
Depth to water (feet)	7.68	5.71	7.20	4.20	8.67	5.19
Water Column (feet)	7.61	4.58	3.28	6.09	3.93	5.19
Well Volume (gallons)	1.24	0.75	0.53	0.99	0.64	0.85
Purge Volume (gallons)	5.5	4.5	5.0	4.0	4.5	4.5

After purging a minimum of three well volumes, the pump was stopped and tubing pulled up. Water within the tubing before entering the pump head was allowed to drain into 40 mL vials for GRO/BTEX analysis. Once all the vials were filled, the tubing was placed back down the well, connected to the pump and sampled for DRO. Six samples and a duplicate were collected in accordance with laboratory protocol, and submitted under chain of custody to SGS Anchorage for the following analysis:

- GRO by AK 101
- DRO by AK 102

- BTEX by EPA 8021B

After purging, water from the five gallon buckets was poured into a 55 gallon, resalable plastic drum. The plastic storage drum was left at the Site and will be properly disposed of once full.

During the Site work to perform the quarterly monitoring well sampling work, Mr. Radu noticed that a hole had been dug under the fuel lines, within 15 feet of the storage tanks. Gasoline was dripping out of one of the steel lines and into a five gallon plastic bucket placed there to catch the dripping fuel. No explanation was given as to how long this had been in effect.

### Contaminants of Concern and Pertinent Cleanup Levels

The contaminants of concern for this site was limited to Gasoline Range Organics (GRO), Diesel Range Organics (DRO) and BTEX, based on laboratory analysis of samples collected after monitoring wells were installed at the Site in August 2015. Table 2 contains ADEC Method Two cleanup levels for all contaminates of concern at the Site.

**Table 2: ADEC Cleanup Levels**

<i>Contaminant of Concern</i>	<i>Groundwater (mg/L)</i>
Gasoline Range Organics (GRO)	2.2
Diesel Range Organics (DRO)	1.5
Benzene	0.005
Toluene	1.0
Ethylbenzene	0.7
Xylenes (total)	10

Water samples are collected with the use of a peristaltic pump and into laboratory certified clean sample jars, preserved if necessary, and then placed into a cooler with ice and a temperature blank for transportation under chain-of-custody to an ADEC approved laboratory. After collection, samples are assigned a unique identification number. A minimum of one duplicate sample is collected for each ten samples submitted to the laboratory.

### Laboratory Analysis and Discussion

Seven samples, including one duplicate (six monitoring well samples and a duplicate) were collected and submitted to SGS Anchorage under appropriate chain of custody procedures. The sampling was conducted in accordance with the ADEC May 2010 Draft *Field Sampling Guidance* (FSG) and September 2009 *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites*.

Laboratory results for MW-1 and MW-3 show levels of DRO, GRO, and Benzene concentrations exceeding the ADEC cleanup criteria. MW-1 is located on the west side of the fueling island, just off the concrete pad, and MW-3 is west of the fuel storage area. MW-6 results exceed the ADEC cleanup criteria for GRO and Benzene and had detectable concentrations for DRO, toluene, ethylbenzene, and xylenes. This well is located on the southwestern corner of the property, near State Dock Road. Table 3 includes groundwater monitoring well results of detected analytes only. The full water sampling laboratory results are in Attachment B. Tabulated results of the three groundwater sampling events are found in Attachment D.

The 2016 first quarter groundwater monitoring results show MW-1 and MW-3 continue to be above ADEC cleanup criteria for DRO, GRO, and Benzene. Toluene continues to be above ADEC cleanup criteria for MW-3 and is now above the criteria for MW-1. MW-6, located near the southwestern corner of the property along State Dock Road, exceeds ADEC



cleanup criteria for DRO, GRO, Benzene, and Toluene. MW-2, located off the southwest corner of the fuel storage area, had detectable concentrations of DRO, GRO, and Benzene.

**Table 3:**  
**Gustavus Dray 2016 First Quarter Groundwater Monitoring Laboratory Results**

Sample ID	ADEC	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-31*
Sample Collection Date		3/30/16	3/30/16	3/30/16	3/30/16	3/30/16	3/30/16	3/30/16
Analyte	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Fractions								
DRO	1.5	1.76	0.573	2.37	0.283U	0.283U	0.837	2.21
GRO	2.2	13.2	0.042	11	0.0500U	0.0500U	2.31	11.7
RRO	1.1	0.240U	0.369J	0.323J	0.160J	0.192J	0.314J	0.464J
VOCs								
Benzene	0.005	0.105	0.00085	0.750	0.00025U	0.00025U	0.0155	0.834
Ethylbenzene	0.7	0.368	0.00056J	0.195	0.0005U	0.0005U	0.1800	0.219
o-Xylene		0.501	0.00043J	0.2820	0.0005U	0.0005U	0.4530	0.308
P & M Xylene		1.26	0.00153J	0.7280	0.0010U	0.0010U	0.2960	0.783
Total Xylenes	10.0	1.761	0.0020J	1.0100	0.0015U	0.0015U	0.7490	1.091
Toluene	1.00	3.47	0.00071 J	2.94	0.0005U	0.0005U	0.0666	2.79

**Notes:**

# U	Analyte not detected at the listed limit of quantitation (LOQ)
# J	Analyte is an estimation below the limit of quantitation (LOQ)
BOLD	Analyte detected in concentration above the ADEC Cleanup level
Shade	Analyte detected in concentration below the ADEC Cleanup level
MW-31*	Duplicate pair to MW-3

Using groundwater depth readings, in conjunction with survey data, groundwater flow is generally moving west towards the Salmon River (see Attachment A, Figure 3). Given the results for MW-1 and MW-6 from this past event, it is likely that contaminants are not confined within the site property boundaries. Fine to medium silty flowing sands are found across the site, and are conducive to groundwater movement. MW-2 had detectable concentrations of GRO, RRO, Benzene, and Xylenes and DRO above the ADEC cleanup level during the October sampling event. For the August 2015 and March 2016 events, detectable concentrations were reported but did not exceed cleanup criteria. MW-4, located on the east side of the fuel storage area, shows a similar pattern of fluctuating concentrations. These results, in conjunction with shallow groundwater and conducive soil conditions, indicate that groundwater movement can be influenced by recent rainfall events. A summary of the three monitoring events are found in Attachment D, Table 4.

Data quality objectives for the project are to produce data of adequate quality for comparison to 18 AAC 75 cleanup levels. The primary tool used to assess the quality of the data was the ADEC Laboratory Data Review Checklist (LDRC). A LDRC was completed for the laboratory work order and is included in Attachment C.

The duplicate pair of MW-3 and MW-31 have detectable analytical results for each analyte except RRO. The relative percent difference (RPD) of the results were calculated to be below criteria set forth by ADEC for duplicate pair RPD (30% for water). RPD percentages range from 5.24% difference for toluene to 11.50% difference for ethylbenzene. DRO and GRO were 6.99% and 6.17% respectively. All results are deemed valid for the purpose of this investigation



Blank Spikes, Matrix Spikes, and Laboratory Control Samples performed by the laboratory are within recovery and RPD criteria. Surrogate recoveries for all samples are within range. Therefore, the data produced can still be used as a basis for the further evaluation of site conditions.

## Conclusions and Recommendations

**NORTECH** provides the following conclusions based on the data collected during this quarterly sampling event.

- GRO, DRO, Benzene, and Toluene levels continued to exceed ADEC cleanup levels at MW-1 and MW-3
- MW-6, located along State Dock Road at the southwest corner of the property, has GRO and Benzene concentrations above ADEC cleanup levels
- DRO is present in detectable quantities but below cleanup limits
- Groundwater flow data suggests groundwater is moving in a generally west direction towards the Salmon River
- MW-5, on the northeast side of the property, lies upgradient of the impacted areas and continues to have non-detected concentrations for the contaminants of concern
- An active line leak is occurring, we recommend the Gustavus Dray address this problem immediately

Based on the conclusions and sample results, **NORTECH** recommends that remedial action occur as soon as practical. Fueling operations currently in use shall be terminated and storage tanks drained to stop further contamination. An alternative fuel storage and delivery system can be put in place to allow continued use of the station. When comparing all three sampling events to date, groundwater movement is potentially spreading the contaminants off site. **NORTECH** has developed a Corrective Action Plan for the site that details remediation of the source area (i.e., excavation and landfarming), followed by remediation of impacted soils and groundwater. This plan should be implemented as soon as possible.

We trust this information is adequate for your needs at the present time. If you have any questions or require further clarification please contact us at your earliest convenience.

Sincerely,  
**NORTECH**

A handwritten signature in black ink, appearing to read "Jason Ginter".

Jason Ginter, PMP,  
Principal, Juneau Technical Manager

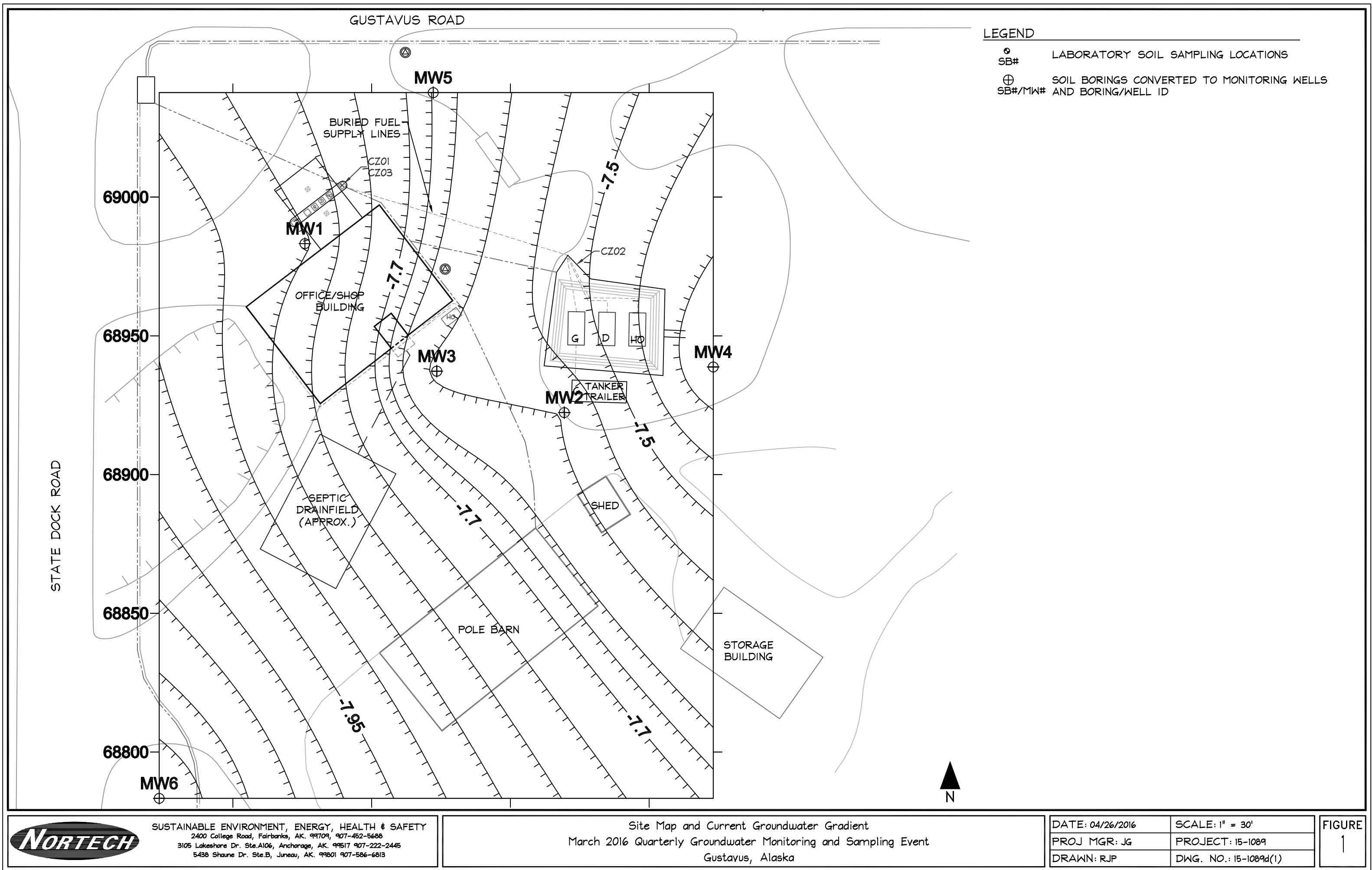
Attachments: Attachment A – Site Figures  
Attachment B – Laboratory Report  
Attachment C – Laboratory Review Data Checklist  
Attachment D – Table 4: Groundwater Results from Each Sampling Event  
Attachment E – Site photos

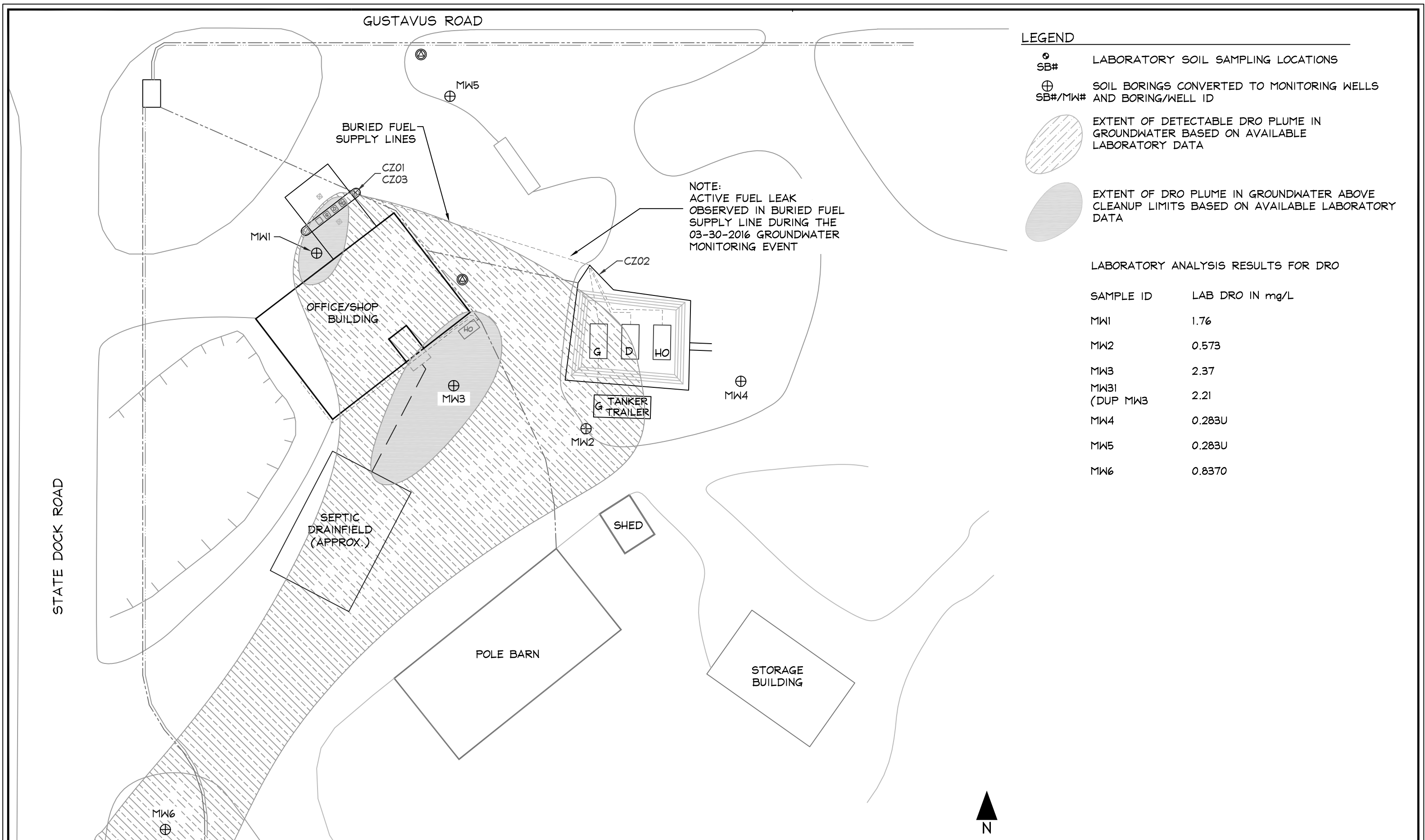


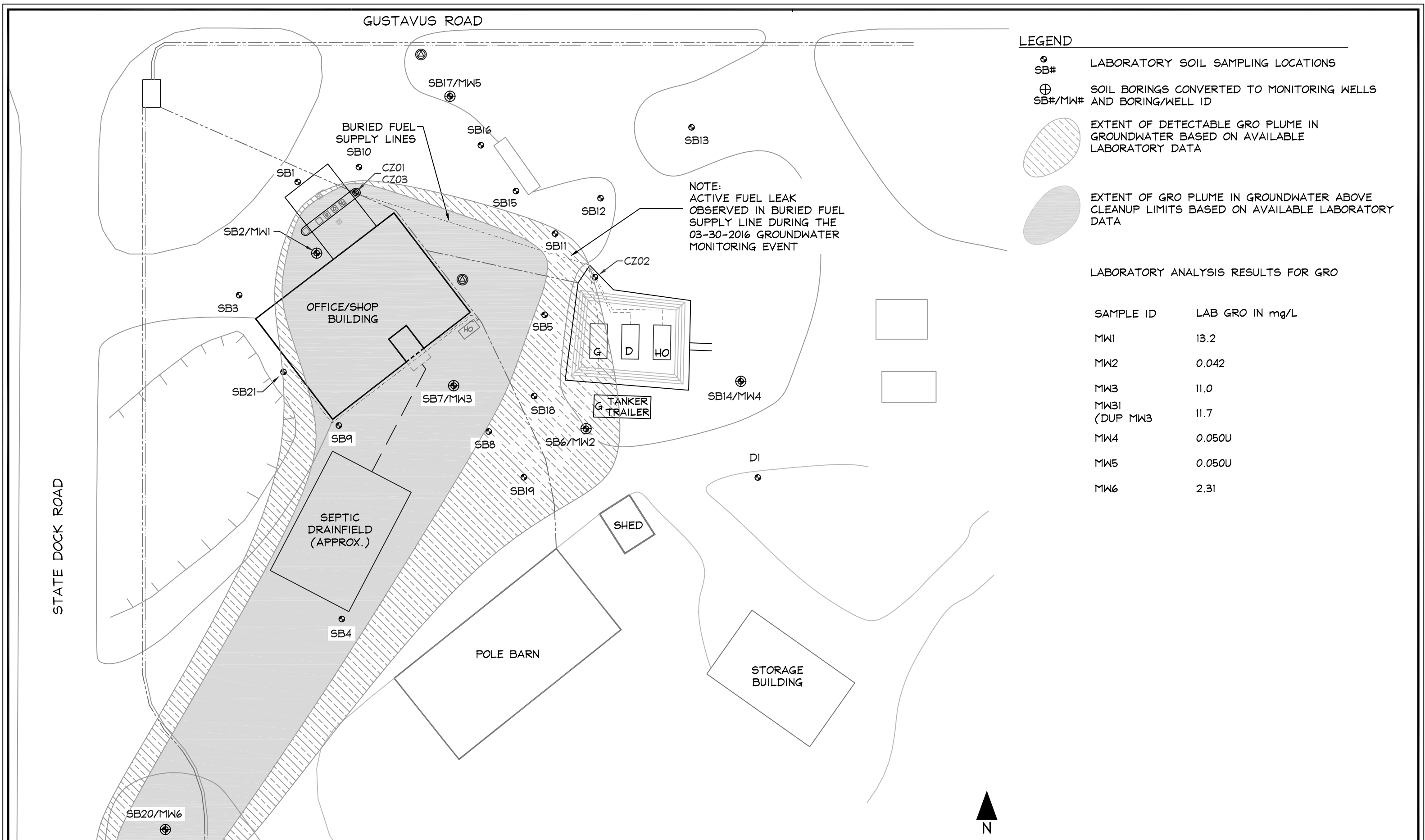
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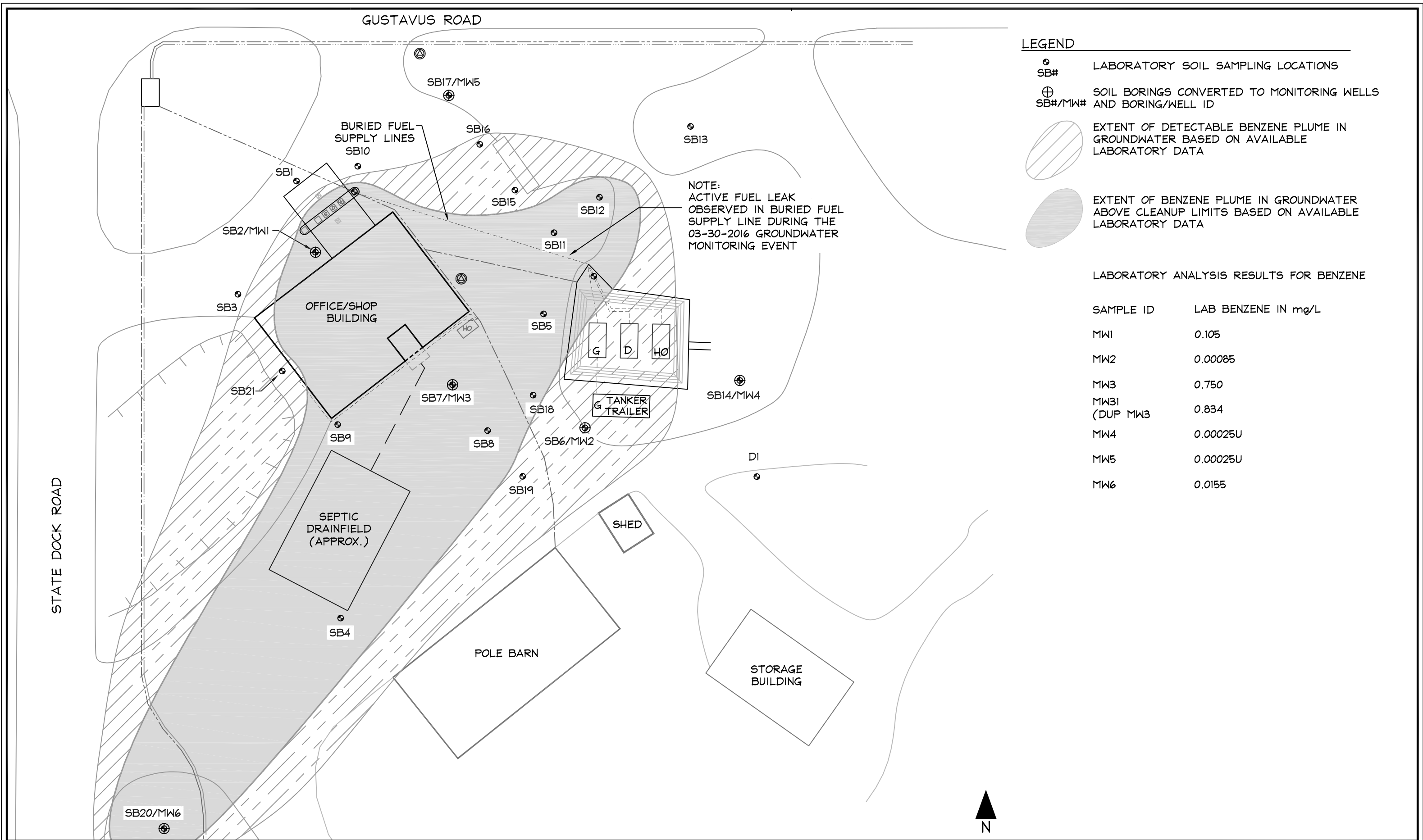
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# **ATTACHMENT A SITE FIGURES**









**LEGEND**

- SB# LABORATORY SOIL SAMPLING LOCATIONS
- ⊕ SB#/MW# SOIL BORINGS CONVERTED TO MONITORING WELLS AND BORING/WELL ID
- EXTENT OF DETECTABLE BENZENE PLUME IN GROUNDWATER BASED ON AVAILABLE LABORATORY DATA
- EXTENT OF BENZENE PLUME IN GROUNDWATER ABOVE CLEANUP LIMITS BASED ON AVAILABLE LABORATORY DATA

LABORATORY ANALYSIS RESULTS FOR BENZENE

SAMPLE ID	LAB BENZENE IN mg/L
MW1	0.105
MW2	0.00085
MW3	0.750
MW31 (DUP MW3)	0.834
MW4	0.00025U
MW5	0.00025U
MW6	0.0155



May 2016

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# **ATTACHMENT B LABORATORY REPORT**

## Laboratory Report of Analysis

To: Nortech  
5438 Shaune Drive #B  
Juneau, AK 99801  
(907)586-6813

Report Number: **1161456**

Client Project: **15-1089 Gustavus Dray**

Dear Dumitru Radu,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Victoria at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

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

Sincerely,  
SGS North America Inc.



SGS North America Inc.  
Environmental Services – Alaska Division  
Project Manager

**Justin Nelson**

**2016.04.15**

**16:41:50 -08'00'**

Victoria Pennick  
Project Manager  
Victoria.Pennick@sgs.com

Date

## Case Narrative

SGS Client: **Nortech**  
SGS Project: **1161456**  
Project Name/Site: **15-1089 Gustavus Dray**  
Project Contact: **Dumitru Radu**

Refer to sample receipt form for information on sample condition.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 04/15/2016 1:23:00PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

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

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
MW1-033016	1161456001	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW2-033016	1161456002	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW3-033016	1161456003	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW4-033016	1161456004	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW5-033016	1161456005	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW6-033016	1161456006	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
MW31-033016	1161456007	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)
Trip Blank	1161456008	03/30/2016	03/31/2016	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
AK101	AK101/8021 Combo.
SW8021B	AK101/8021 Combo.
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water

Print Date: 04/15/2016 1:23:03PM

## Detectable Results Summary

Client Sample ID: **MW1-033016**

Lab Sample ID: 1161456001

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	1.76	mg/L
Benzene	105	ug/L
Ethylbenzene	368	ug/L
Gasoline Range Organics	13.2	mg/L
o-Xylene	501	ug/L
P & M -Xylene	1260	ug/L
Toluene	3470	ug/L

Client Sample ID: **MW2-033016**

Lab Sample ID: 1161456002

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.573	mg/L
Residual Range Organics	0.369J	mg/L
Benzene	0.850	ug/L
Ethylbenzene	0.560J	ug/L
Gasoline Range Organics	0.0420J	mg/L
o-Xylene	0.430J	ug/L
P & M -Xylene	1.53J	ug/L
Toluene	0.710J	ug/L

Client Sample ID: **MW3-033016**

Lab Sample ID: 1161456003

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2.37	mg/L
Residual Range Organics	0.323J	mg/L
Benzene	750	ug/L
Ethylbenzene	195	ug/L
Gasoline Range Organics	11.0	mg/L
o-Xylene	282	ug/L
P & M -Xylene	728	ug/L
Toluene	2940	ug/L

Client Sample ID: **MW4-033016**

Lab Sample ID: 1161456004

**Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Residual Range Organics	0.160J	mg/L

Client Sample ID: **MW5-033016**

Lab Sample ID: 1161456005

**Semivolatile Organic Fuels**

**Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Residual Range Organics	0.192J	mg/L
Toluene	0.500J	ug/L

## Detectable Results Summary

Client Sample ID: **MW6-033016**

Lab Sample ID: 1161456006

### Semivolatile Organic Fuels

### Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	0.837	mg/L
Residual Range Organics	0.314J	mg/L
Benzene	15.5	ug/L
Ethylbenzene	180	ug/L
Gasoline Range Organics	2.31	mg/L
o-Xylene	453	ug/L
P & M -Xylene	296	ug/L
Toluene	66.6	ug/L

Client Sample ID: **MW31-033016**

Lab Sample ID: 1161456007

### Semivolatile Organic Fuels

### Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2.21	mg/L
Residual Range Organics	0.464J	mg/L
Benzene	834	ug/L
Ethylbenzene	219	ug/L
Gasoline Range Organics	11.7	mg/L
o-Xylene	308	ug/L
P & M -Xylene	783	ug/L
Toluene	2790	ug/L

Client Sample ID: **Trip Blank**

Lab Sample ID: 1161456008

### Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Toluene	1.38	ug/L

## Results of MW1-033016

Client Sample ID: **MW1-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456001  
 Lab Project ID: 1161456

Collection Date: 03/30/16 13:35  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	1.76	0.584	0.175	mg/L	1		04/05/16 14:34
<b>Surrogates</b>							
5a Androstane (surr)	89.2	50-150		%	1		04/05/16 14:34

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK102  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 14:34  
 Container ID: 1161456001-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 257 mL  
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.243 U	0.486	0.146	mg/L	1		04/05/16 14:34
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	106	50-150		%	1		04/05/16 14:34

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK103  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 14:34  
 Container ID: 1161456001-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 257 mL  
 Prep Extract Vol: 1 mL



#### Results of MW1-033016

Client Sample ID: **MW1-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456001  
Lab Project ID: 1161456

Collection Date: 03/30/16 13:35  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

#### Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	13.2	1.00	0.310	mg/L	10		04/04/16 19:11

#### Surrogates

4-Bromofluorobenzene (surr)	104	50-150		%	10		04/04/16 19:11
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#### Batch Information

Analytical Batch: VFC12948  
Analytical Method: AK101  
Analyst: S.P  
Analytical Date/Time: 04/04/16 19:11  
Container ID: 1161456001-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	105	5.00	1.50	ug/L	10		04/04/16 19:11
Ethylbenzene	368	10.0	3.10	ug/L	10		04/04/16 19:11
o-Xylene	501	10.0	3.10	ug/L	10		04/04/16 19:11
P & M -Xylene	1260	20.0	6.20	ug/L	10		04/04/16 19:11
Toluene	3470	50.0	15.5	ug/L	50		04/13/16 23:22

#### Surrogates

1,4-Difluorobenzene (surr)	98.5	77-115		%	10		04/04/16 19:11
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#### Batch Information

Analytical Batch: VFC12948  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/04/16 19:11  
Container ID: 1161456001-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VFC12957  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/13/16 23:22  
Container ID: 1161456001-A

Prep Batch: VXX28678  
Prep Method: SW5030B  
Prep Date/Time: 04/13/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:05PM

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## Results of MW2-033016

Client Sample ID: **MW2-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456002  
 Lab Project ID: 1161456

Collection Date: 03/30/16 15:35  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.573	0.560	0.168	mg/L	1		04/05/16 14:55
<b>Surrogates</b>							
5a Androstane (surr)	93	50-150		%	1		04/05/16 14:55

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK102  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 14:55  
 Container ID: 1161456002-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 268 mL  
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.369 J	0.466	0.140	mg/L	1		04/05/16 14:55
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	113	50-150		%	1		04/05/16 14:55

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK103  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 14:55  
 Container ID: 1161456002-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 268 mL  
 Prep Extract Vol: 1 mL

**Results of MW2-033016**

Client Sample ID: **MW2-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456002  
Lab Project ID: 1161456

Collection Date: 03/30/16 15:35  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0420 J	0.100	0.0310	mg/L	1		04/04/16 17:17

**Surrogates**

4-Bromofluorobenzene (surr)	84.2	50-150		%	1		04/04/16 17:17
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: AK101  
Analyst: S.P  
Analytical Date/Time: 04/04/16 17:17  
Container ID: 1161456002-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.850	0.500	0.150	ug/L	1		04/04/16 17:17
Ethylbenzene	0.560 J	1.00	0.310	ug/L	1		04/04/16 17:17
o-Xylene	0.430 J	1.00	0.310	ug/L	1		04/04/16 17:17
P & M -Xylene	1.53 J	2.00	0.620	ug/L	1		04/04/16 17:17
Toluene	0.710 J	1.00	0.310	ug/L	1		04/04/16 17:17

**Surrogates**

1,4-Difluorobenzene (surr)	99.3	77-115		%	1		04/04/16 17:17
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/04/16 17:17  
Container ID: 1161456002-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



#### Results of MW3-033016

Client Sample ID: **MW3-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456003  
Lab Project ID: 1161456

Collection Date: 03/30/16 15:00  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

#### Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	2.37	0.556	0.167	mg/L	1		04/05/16 15:16
<b>Surrogates</b>							
5a Androstane (surr)	92.7	50-150		%	1		04/05/16 15:16

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK102  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:16  
Container ID: 1161456003-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 270 mL  
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.323 J	0.463	0.139	mg/L	1		04/05/16 15:16
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	109	50-150		%	1		04/05/16 15:16

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK103  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:16  
Container ID: 1161456003-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 270 mL  
Prep Extract Vol: 1 mL



#### Results of MW3-033016

Client Sample ID: **MW3-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456003  
Lab Project ID: 1161456

Collection Date: 03/30/16 15:00  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

#### Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	11.0	1.00	0.310	mg/L	10		04/04/16 19:30

#### Surrogates

4-Bromofluorobenzene (surr)	94.2	50-150		%	10		04/04/16 19:30
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#### Batch Information

Analytical Batch: VFC12948  
Analytical Method: AK101  
Analyst: S.P  
Analytical Date/Time: 04/04/16 19:30  
Container ID: 1161456003-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	750	5.00	1.50	ug/L	10		04/04/16 19:30
Ethylbenzene	195	10.0	3.10	ug/L	10		04/04/16 19:30
o-Xylene	282	10.0	3.10	ug/L	10		04/04/16 19:30
P & M -Xylene	728	20.0	6.20	ug/L	10		04/04/16 19:30
Toluene	2940	50.0	15.5	ug/L	50		04/13/16 22:44

#### Surrogates

1,4-Difluorobenzene (surr)	108	77-115		%	10		04/04/16 19:30
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#### Batch Information

Analytical Batch: VFC12948  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/04/16 19:30  
Container ID: 1161456003-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VFC12957  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/13/16 22:44  
Container ID: 1161456003-A

Prep Batch: VXX28678  
Prep Method: SW5030B  
Prep Date/Time: 04/13/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:05PM

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#### Results of MW4-033016

Client Sample ID: **MW4-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456004  
Lab Project ID: 1161456

Collection Date: 03/30/16 16:15  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

#### Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.283 U	0.566	0.170	mg/L	1		04/05/16 15:37
<b>Surrogates</b>							
5a Androstane (surr)	91	50-150		%	1		04/05/16 15:37

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK102  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:37  
Container ID: 1161456004-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.160 J	0.472	0.142	mg/L	1		04/05/16 15:37
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	109	50-150		%	1		04/05/16 15:37

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK103  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:37  
Container ID: 1161456004-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL

Print Date: 04/15/2016 1:23:05PM

J flagging is activated

## Results of MW4-033016

Client Sample ID: **MW4-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456004  
 Lab Project ID: 1161456

Collection Date: 03/30/16 16:15  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		04/04/16 17:36

### Surrogates

4-Bromofluorobenzene (surr)	83.3	50-150		%	1		04/04/16 17:36
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## Batch Information

Analytical Batch: VFC12948  
 Analytical Method: AK101  
 Analyst: S.P  
 Analytical Date/Time: 04/04/16 17:36  
 Container ID: 1161456004-A

Prep Batch: VXX28644  
 Prep Method: SW5030B  
 Prep Date/Time: 04/04/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.250 U	0.500	0.150	ug/L	1		04/04/16 17:36
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		04/04/16 17:36
o-Xylene	0.500 U	1.00	0.310	ug/L	1		04/04/16 17:36
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		04/04/16 17:36
Toluene	0.500 U	1.00	0.310	ug/L	1		04/04/16 17:36

### Surrogates

1,4-Difluorobenzene (surr)	99	77-115		%	1		04/04/16 17:36
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## Batch Information

Analytical Batch: VFC12948  
 Analytical Method: SW8021B  
 Analyst: S.P  
 Analytical Date/Time: 04/04/16 17:36  
 Container ID: 1161456004-A

Prep Batch: VXX28644  
 Prep Method: SW5030B  
 Prep Date/Time: 04/04/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



#### Results of MW5-033016

Client Sample ID: **MW5-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456005  
Lab Project ID: 1161456

Collection Date: 03/30/16 14:30  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

#### Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.283 U	0.566	0.170	mg/L	1		04/05/16 15:58
<b>Surrogates</b>							
5a Androstane (surr)	82.2	50-150		%	1		04/05/16 15:58

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK102  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:58  
Container ID: 1161456005-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.192 J	0.472	0.142	mg/L	1		04/05/16 15:58
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	95.8	50-150		%	1		04/05/16 15:58

#### Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK103  
Analyst: CJSW  
Analytical Date/Time: 04/05/16 15:58  
Container ID: 1161456005-D

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 04/01/16 08:59  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL

**Results of MW5-033016**

Client Sample ID: **MW5-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456005  
Lab Project ID: 1161456

Collection Date: 03/30/16 14:30  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		04/04/16 17:55

**Surrogates**

4-Bromofluorobenzene (surr)	81.3	50-150		%	1		04/04/16 17:55
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: AK101  
Analyst: S.P  
Analytical Date/Time: 04/04/16 17:55  
Container ID: 1161456005-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.250 U	0.500	0.150	ug/L	1		04/04/16 17:55
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		04/04/16 17:55
o-Xylene	0.500 U	1.00	0.310	ug/L	1		04/04/16 17:55
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		04/04/16 17:55
Toluene	0.500 J	1.00	0.310	ug/L	1		04/04/16 17:55

**Surrogates**

1,4-Difluorobenzene (surr)	100	77-115		%	1		04/04/16 17:55
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/04/16 17:55  
Container ID: 1161456005-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Results of MW6-033016

Client Sample ID: **MW6-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456006  
 Lab Project ID: 1161456

Collection Date: 03/30/16 16:45  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	0.837	0.556	0.167	mg/L	1		04/05/16 16:19
<b>Surrogates</b>							
5a Androstane (surr)	86.6	50-150		%	1		04/05/16 16:19

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK102  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 16:19  
 Container ID: 1161456006-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 270 mL  
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.314 J	0.463	0.139	mg/L	1		04/05/16 16:19
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	103	50-150		%	1		04/05/16 16:19

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK103  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 16:19  
 Container ID: 1161456006-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 270 mL  
 Prep Extract Vol: 1 mL

## Results of MW6-033016

Client Sample ID: **MW6-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456006  
 Lab Project ID: 1161456

Collection Date: 03/30/16 16:45  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.31	0.500	0.155	mg/L	5		04/04/16 20:08

### Surrogates

4-Bromofluorobenzene (surr)	99.3	50-150		%	5		04/04/16 20:08
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## Batch Information

Analytical Batch: VFC12948  
 Analytical Method: AK101  
 Analyst: S.P  
 Analytical Date/Time: 04/04/16 20:08  
 Container ID: 1161456006-A

Prep Batch: VXX28644  
 Prep Method: SW5030B  
 Prep Date/Time: 04/04/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	15.5	2.50	0.750	ug/L	5		04/04/16 20:08
Ethylbenzene	180	5.00	1.55	ug/L	5		04/04/16 20:08
o-Xylene	453	5.00	1.55	ug/L	5		04/04/16 20:08
P & M -Xylene	296	10.0	3.10	ug/L	5		04/04/16 20:08
Toluene	66.6	5.00	1.55	ug/L	5		04/04/16 20:08

### Surrogates

1,4-Difluorobenzene (surr)	98.8	77-115		%	5		04/04/16 20:08
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## Batch Information

Analytical Batch: VFC12948  
 Analytical Method: SW8021B  
 Analyst: S.P  
 Analytical Date/Time: 04/04/16 20:08  
 Container ID: 1161456006-A

Prep Batch: VXX28644  
 Prep Method: SW5030B  
 Prep Date/Time: 04/04/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

## Results of MW31-033016

Client Sample ID: **MW31-033016**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456007  
 Lab Project ID: 1161456

Collection Date: 03/30/16 17:15  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	2.21	0.566	0.170	mg/L	1		04/05/16 16:40
<b>Surrogates</b>							
5a Androstane (surr)	90.9	50-150		%	1		04/05/16 16:40

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK102  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 16:40  
 Container ID: 1161456007-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 265 mL  
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	0.464 J	0.472	0.142	mg/L	1		04/05/16 16:40
<b>Surrogates</b>							
n-Triacontane-d62 (surr)	108	50-150		%	1		04/05/16 16:40

## Batch Information

Analytical Batch: XFC12322  
 Analytical Method: AK103  
 Analyst: CJSW  
 Analytical Date/Time: 04/05/16 16:40  
 Container ID: 1161456007-D

Prep Batch: XXX35105  
 Prep Method: SW3520C  
 Prep Date/Time: 04/01/16 08:59  
 Prep Initial Wt./Vol.: 265 mL  
 Prep Extract Vol: 1 mL

**Results of MW31-033016**

Client Sample ID: **MW31-033016**  
Client Project ID: **15-1089 Gustavus Dray**  
Lab Sample ID: 1161456007  
Lab Project ID: 1161456

Collection Date: 03/30/16 17:15  
Received Date: 03/31/16 16:49  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	11.7	5.00	1.55	mg/L	50		04/04/16 18:52

**Surrogates**

4-Bromofluorobenzene (surr)	84.8	50-150		%	50		04/04/16 18:52
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: AK101  
Analyst: S.P  
Analytical Date/Time: 04/04/16 18:52  
Container ID: 1161456007-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	834	25.0	7.50	ug/L	50		04/04/16 18:52
Ethylbenzene	219	50.0	15.5	ug/L	50		04/04/16 18:52
o-Xylene	308	50.0	15.5	ug/L	50		04/04/16 18:52
P & M -Xylene	783	100	31.0	ug/L	50		04/04/16 18:52
Toluene	2790	50.0	15.5	ug/L	50		04/04/16 18:52

**Surrogates**

1,4-Difluorobenzene (surr)	101	77-115		%	50		04/04/16 18:52
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**Batch Information**

Analytical Batch: VFC12948  
Analytical Method: SW8021B  
Analyst: S.P  
Analytical Date/Time: 04/04/16 18:52  
Container ID: 1161456007-A

Prep Batch: VXX28644  
Prep Method: SW5030B  
Prep Date/Time: 04/04/16 08:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **15-1089 Gustavus Dray**  
 Lab Sample ID: 1161456008  
 Lab Project ID: 1161456

Collection Date: 03/30/16 13:35  
 Received Date: 03/31/16 16:49  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		04/01/16 20:47

### Surrogates

4-Bromofluorobenzene (surr)	87.3	50-150		%	1		04/01/16 20:47
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## Batch Information

Analytical Batch: VFC12953  
 Analytical Method: AK101  
 Analyst: S.P  
 Analytical Date/Time: 04/01/16 20:47  
 Container ID: 1161456008-A

Prep Batch: VXX28638  
 Prep Method: SW5030B  
 Prep Date/Time: 04/01/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.250 U	0.500	0.150	ug/L	1		04/01/16 20:47
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		04/01/16 20:47
o-Xylene	0.500 U	1.00	0.310	ug/L	1		04/01/16 20:47
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		04/01/16 20:47
Toluene	1.38	1.00	0.310	ug/L	1		04/01/16 20:47

### Surrogates

1,4-Difluorobenzene (surr)	99.5	77-115		%	1		04/01/16 20:47
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## Batch Information

Analytical Batch: VFC12953  
 Analytical Method: SW8021B  
 Analyst: S.P  
 Analytical Date/Time: 04/01/16 20:47  
 Container ID: 1161456008-A

Prep Batch: VXX28638  
 Prep Method: SW5030B  
 Prep Date/Time: 04/01/16 08:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1730878 [VXX/28638]  
Blank Lab ID: 1318341

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1161456008

## Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
<b>Surrogates</b>				
4-Bromofluorobenzene (surr)	84.3	50-150		%

## Batch Information

Analytical Batch: VFC12953  
Analytical Method: AK101  
Instrument: Agilent 7890A PID/FID  
Analyst: S.P  
Analytical Date/Time: 4/1/2016 8:27:00PM

Prep Batch: VXX28638  
Prep Method: SW5030B  
Prep Date/Time: 4/1/2016 8:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:08PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VXX28638]  
 Blank Spike Lab ID: 1318344  
 Date Analyzed: 04/01/2016 19:49

Spike Duplicate ID: LCSD for HBN 1161456 [VXX28638]  
 Spike Duplicate Lab ID: 1318345  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1161456008

## Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	0.940	94	1.00	0.972	97	( 60-120 )	3.40	(< 20 )
<b>Surrogates</b>									
4-Bromofluorobenzene (surr)	0.0500	94.9	95	0.0500	90	90	( 50-150 )	5.30	

## Batch Information

Analytical Batch: **VFC12953**  
 Analytical Method: **AK101**  
 Instrument: **Agilent 7890A PID/FID**  
 Analyst: **S.P**

Prep Batch: **VXX28638**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **04/01/2016 08:00**  
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:10PM

## Method Blank

Blank ID: MB for HBN 1730878 [VXX/28638]  
Blank Lab ID: 1318341

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1161456008

## Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.460J	1.00	0.310	ug/L
P & M -Xylene	0.630J	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
<b>Surrogates</b>				
1,4-Difluorobenzene (surr)	98.7	77-115		%

## Batch Information

Analytical Batch: VFC12953  
Analytical Method: SW8021B  
Instrument: Agilent 7890A PID/FID  
Analyst: S.P  
Analytical Date/Time: 4/1/2016 8:27:00PM

Prep Batch: VXX28638  
Prep Method: SW5030B  
Prep Date/Time: 4/1/2016 8:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:13PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VXX28638]  
 Blank Spike Lab ID: 1318342  
 Date Analyzed: 04/01/2016 19:30

Spike Duplicate ID: LCSD for HBN 1161456 [VXX28638]  
 Spike Duplicate Lab ID: 1318343  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1161456008

## Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	101	101	100	97.0	97	( 80-120 )	4.00	(< 20 )
Ethylbenzene	100	103	103	100	98.3	98	( 75-125 )	5.00	(< 20 )
o-Xylene	100	104	104	100	98.9	99	( 80-120 )	5.20	(< 20 )
P & M -Xylene	200	204	102	200	194	97	( 75-130 )	5.30	(< 20 )
Toluene	100	102	102	100	97.8	98	( 75-120 )	4.30	(< 20 )
<b>Surrogates</b>									
1,4-Difluorobenzene (surr)	50	105	105	50	104	104	( 77-115 )	1.60	

## Batch Information

Analytical Batch: VFC12953  
 Analytical Method: SW8021B  
 Instrument: Agilent 7890A PID/FID  
 Analyst: S.P

Prep Batch: VXX28638  
 Prep Method: SW5030B  
 Prep Date/Time: 04/01/2016 08:00  
 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:15PM

## Method Blank

Blank ID: MB for HBN 17308[ 1 X / 4 6] LLb  
Blank 4aQID: 1316L8C

MaxW u ax5r qp, rfaE5i . ffGd ro, n) R

Sm for pae sl5t:

11] 1LQ 001i 11] 1LQ 00[ i 11] 1LQ 003i 11] 1LQ 00Li 11] 1LQ 00Q 11] 1LQ 00j i 11] 1LQ 007

## y 5t, lx QJAK101

garae 5x5r

d at olW5 y an- 5 Pr- anV

y 5t, lx

000000

4PS2m

0000

D4

00310

OnW

e - 2

## Surrogates

LzBroe ofl, oroQ5n%5n5 d, rrR

63G

00z100

A

## Batch Information

hnalW5al BaxEF: X9m1[ 8L6

hnalW5al M5xFo): hK101

Int x, e 5nx h- V5nx7680h gID2ID

hnalU x p@

hnalW5al Dax52TW5: L2.4 01] 3:L1:00gM

gr5s BaxEF: X/ / [ 6] LL

gr5s M5xFo): pu 0030B

gr5s Dax52TW5: L2.4 01] 6:00:00hM

gr5s InW5al u x2XolG Ce 4

gr5s . (xaExXol: Ce 4

grW5Dax5: 0L21C4 01] 1:[ 3:17gM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VXX286443  
Blank Spike La] ID: 1b184t 8  
Date ynalzde0: / 49 49/ 16 15:/ b

Spike Duplicate ID: LCSD for HBN 1161456  
[VXX286443  
Spike Duplicate La] ID: 1b184t t  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1161456/ / 1, 1161456/ / 2, 1161456/ / b, 1161456/ / 4, 1161456/ / 5, 1161456/ / 6, 1161456/ / O

## Results ] z AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range 7 rganics	1.1	1.14b	104	1.1	1.18t O	107	( 6/ -12/ )	5.1	(< 2/ )
<b>Surrogates</b>									
4-Bromofluorobiphenyl (surr)	1.15	1.16	105	1.15	1.15	100	( 5/ -15/ )	1.2	

## Batch Information

Analyst: VFC12953  
Method: AK101  
Instrument: Agilent 7390A 8100  
Sample: S/8

Prep Batch: V. . 23X55  
Prep Method: S6 W40B  
Prep Date/Time: 05/05/2018 03:00  
Spike Initial Volume: 1.1 mg/L Extraction Volume: 5 mL  
Duplicate Initial Volume: 1.1 mg/L Extraction Volume: 5 mL

## Method Blank

Blank ID: MB for HBN 17308[ 1 X/ / 4 6] LLb  
Blank 4aQID: 1316L8C

MaxW u ax5r q, rfaE5i . ffGd ro, n) R

Sm for pae sl5t:

11] 1LQ 001i 11] 1LQ 00[i i 11] 1LQ 003i 11] 1LQ 00Li 11] 1LQ 00Q 11] 1LQ 00] i 11] 1LQ 007

## y 5t, lx QJSW8021B

z arae 5x5r	y 5t, lx	4PS2m4	D4	OnW
B5ng5n5	0300-	0600	0300	, h2
. xJUQ5ng5n5	06000	100	0310	, h2
o& U5n5	06000	100	0310	, h2
z T M & U5n5	1000	[ 00	00[ 0	, h2
%ol, 5n5	06000	100	0310	, h2
<b>Surrogates</b>				
1iL&W, oroC5ng5n5 d , rrR	88G	77&1C		9

## Batch Information

AnalU5al BaxEJ: XFm1[ 8L6  
AnalU5al M5xJo): pu 60[ 1B  
Int x, e 5nx AhV5nx7680A zID2FID  
AnalU x p Q  
AnalU5al Dax52W5: L2.4 01] 3:L1:00zM

zr5s BaxEJ: X/ / [ 6] LL  
zr5s M5xJo): pu 0030B  
zr5s Dax52W5: L2.4 01] 6:00:00AM  
zr5s InW u x2KolG Ce 4  
zr5s . (xaExXol: Ce 4

zrWkDax5: 0L2ICQ 01] 1:[ 3:[ 0zM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VXX286443  
Blank Spike La] ID: 1b184t 6  
Date ynalzde0: / 49 49/ 16 14:44

Spike Duplicate ID: LCSD for HBN 1161456  
[VXX286443  
Spike Duplicate La] ID: 1b184t R  
x aAiW ( aAr ,SurfaceE. ffE) roun0P

7 C for Sa%pleM 1161456/ / 1E1161456/ / 2E1161456/ / bE1161456/ / 4E1161456/ / 5E1161456/ / 6E1161456/ / R

## seMilaM] z SW8021B

mara%eAr	Blank Spike ,uCLP			Spike Duplicate ,uCLP			CL	s mD ,g P	s mD CL
	Spike	seMila	sec ,g P	Spike	seMila	sec ,g P			
Bendene	1/ /	1/ 1	1/ 1	1/ /	1/ R	1/ R	, 8/ -12/ P	50/	, < 2/ P
. Axl] endene	1/ /	tt 5	1/ /	1/ /	1/ 5	1/ 5	, R5-125 P	50/	, < 2/ P
o-Xylene	1/ /	1/ /	1/ /	1/ /	1/ b	1/ b	, 8/ -12/ P	20/	, < 2/ P
m & x -Xylene	2/ /	1t 6	t 8	2/ /	2/ 5	1/ b	, R5-1b/ P	40/	, < 2/ P
Toluene	1/ /	tt 8	1/ /	1/ /	1/ b	1/ b	, R5-12/ P	20/	, < 2/ P
<b>Surrogates</b>									
1,2-Difluoro] endene ,MurrP	5/	1/ b	1/ b	5/	1/ b	1/ b	, RR-115 P	/ 2b	

## Batch Information

y nalzAcal BaAh: VFC12958  
y nalzAcal x eAo0: SW8021B  
InMku%enA 3 gilent A8903 7IPDIP  
y nalzMA S/7

mrep BaAh: V. . 28X55  
mrep x eAo0: SW6040B  
mrep Date9Ti%e: 0505201X 08:00  
Spike IniA( A9/oIG 1/ / uCL . VMacAVol: 5 %L  
Dupe IniA( A9/oIG 1/ / uCL . VMacAVol: 5 %L

## Method Blank

Blank ID: MB for HBN 173108[ X / 6[ 87[ ]

Blank Lab ID: 1314808

QC for Samples:

1181508t t 1i 1181508t t 3

MaxW u axer cS, rfaEei . ffGd ro, n) R

## yes, ls bU SW8021B

<u>garamer</u>	<u>yes, ls</u>	<u>LPQCL</u>	<u>DL</u>	<u>OnW</u>
- ol, ene	t 0 t t O	1 6 t	t 3 1 t	, z 2
<b>Surrogates</b>				
1i5%W, orobenAene cS, rrR	4[ 6	77%10		h

## Batch Information

FnalUal BaxE9: XKC16407  
 FnalUal Me9o): Su [ t 61B  
 Insx, menx FzVinx7[ 4t F gID2KID  
 FnalUsx Sg  
 FnalUal Dax2 We: 52132t 18 3:t 8:t t gM

grep BaxE9: X/ / 6[ 87[  
 grep Me9o): Su 0t 3t B  
 grep Dax2 We: 52132t 18 [ :t:t:t FM  
 grep InW u x2KoiG 0 mL  
 grep . (xaExXol: 0 mL

grWkDax: t 52102t 18 1:63:65gM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VXX28678]  
Blank Spike Lab ID: 1319657  
Date Analyzed: 04/13/2016 15:43

Spike Duplicate ID: LCSD for HBN 1161456 [VXX28678]  
Spike Duplicate Lab ID: 1319658  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1161456001, 1161456003

### Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Toluene	100	110	110	100	108	108	( 75-120 )	2.00	(< 20 )
<b>Surrogates</b>									
1,4-Difluorobenzene (surr)	50	103	103	50	104	104	( 77-115 )	0.58	

### Batch Information

Analytical Batch: VFC12953  
Analytical Method: SW8021B  
Instrument: Agilent 3890A 7IP DIP  
Analyst: S/7

Prep Batch: V. . 28X38  
Prep Method: SW5060B  
Prep Date/Time: 04/16/2016 08:00  
Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL  
Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 04/15/2016 1:23:25PM

## Method Blank

Blank ID: MB for HBN 1730834 [XXX/35105]  
Blank Lab ID: 1318169

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1161456001, 1161456002, 1161456003, 1161456004, 1161456005, 1161456006, 1161456007

## Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.180	mg/L
<b>Surrogates</b>				
5a Androstane (surr)	95.5	60-120		%

## Batch Information

Analytical Batch: XFC12322  
Analytical Method: AK102  
Instrument: HP 7890A FID SV E F  
Analyst: CJSW  
Analytical Date/Time: 4/5/2016 1:32:00PM

Prep Batch: XXX35105  
Prep Method: SW3520C  
Prep Date/Time: 4/1/2016 8:59:38AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 04/15/2016 1:23:27PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VVVX51258  
Blank Spike La3 ID: 1X1] 1b2  
Date Analyzed: 24/05/2016 1X:5X

Spike D9pluate ID: LCSD for HBN 1161456  
[VVVX51258  
Spike D9pluate La3 ID: 1X1] 1b1  
s atrIM x ater W9rfaue( , ffE . ro9ndG

g C for SaPpleR 1161456221( 116145622/ ( 116145622X( 1161456224( 1161456225( 1161456226( 116145622b

## ceR9ltR3y AK102

	Blank Spike W %LG			Spike D9pluate W %LG					
<u>araPeter</u>	<u>Spike</u>	<u>ceR9lt</u>	<u>ceU WnG</u>	<u>Spike</u>	<u>ceR9lt</u>	<u>ceU WnG</u>	<u>CL</u>	<u>c) D WnG</u>	<u>c) D CL</u>
DieRel c an%e Qr%aniur	/ 2	/ XE5	11]	/ 2	// E	111	W5C/ 5 G	5E2	W / 2 G
<b>Surrogates</b>									
5a AndroRane W9rrG	2E	125	125	2E	12/	12/	W62C/ 2 G	/ E 2	

## Batch Information

Analytiual Batu<: XFC12322

Analytiual s et<od: AK102

InRr9P ent: HP 7890A FID SV E F

AnalyRt: CJSW

) rep Batu<: XXX35105

) rep s et<od: SW3520C

) rep Date0hiP e: 04/01/2016 08:59

Spike Init x tEToLE / 2 P %L , Mraut Tol: 1 P L

D9pe Init x tEToLE / 2 P %L , Mraut Tol: 1 P L

) rint Date: 24/05/2016 1:/ X:X2) s

## Method Blank

Blank ID: MB for HBN 1730834 [XXX/35105]  
Blank Lab ID: 1318169

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1161456001, 1161456002, 1161456003, 1161456004, 1161456005, 1161456006, 1161456007

## Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	0.250U	0.500	0.150	mg/L
<b>Surrogates</b>				
nA riacontaneAt62 (surr)	113	60A20		%

## Batch Information

h nalytical BatcF: XKC12322  
h nalytical MetFod: hV103  
Instrument: HP 7890h KID SJ E K  
h nalytst: CTSW  
h nalytical Date/- ime: 4/5/2016 1:32:00PM

Prep BatcF: XXX35105  
Prep MetFod: SW3520C  
Prep Date/- ime: 4/1/2016 8:59:38hM  
Prep Initial Wt./J ol.: 250 mL  
Prep Extract J ol: 1 mL

Print Date: 04/15/2016 1:23:32PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1161456 [VVVX51258  
Blank Spike La3 ID: 1X1] 1b2  
Date Analyzed: 24/05/2016 1X:5X

Spike D9pluate ID: LCSD for HBN 1161456  
[VVVX51258  
Spike D9pluate La3 ID: 1X1] 1b1  
s atrIM x ater W9rfaue( , ffE . ro9ndG

g C for SaPpleR 1161456221( 116145622/ ( 116145622X( 1161456224( 1161456225( 1161456226( 116145622b

## ceR9ltR3y AK102

	Blank Spike W %LG			Spike D9pluate W %LG					
araPeter	Spike	ceR9lt	ceU W%G	Spike	ceR9lt	ceU W%G	CL	c) D W%G	c) D CL
ceRd9al can%e Qr%aniuR	/ 2	/ XE	116	/ 2	// E	112	W62Q/ 2 G	4E2	W/ 2 G
<b>Surrogates</b>									
nQriauontaneQ6/ W9rrG	2E	125	125	2E	12/	12/	W62Q/ 2 G	/ E2	

## Batch Information

Analytiual Batu<: XFC13233

Analytiual s et<od: AK102

InRr9P ent: HP 7890A FID SV E F

AnalyR: CJSW

) rep Batu<: XXX25105

) rep s et<od: SW2530C

) rep DateQ iPe: 04/01/3016 08:59

Spike Init x tEholE / 2 P %L , Mraut hol: 1 P L

D9pe Init x tEholE / 2 P %L , Mraut hol: 1 P L

) rint Date: 24/05/2016 1:/ X:X4) s

SGS

SGS Environment  
CHAIN OF CUSTODY

1161456



Locations Nationwide  
 Alaska  
 New Jersey  
 North Carolina  
 West Virginia  
 Maryland  
 New York  
 Ohio  
 www.us.sgs.com

CLIENT: <b>NORTECH</b>		SGS Reference #:		page _____ of _____	
CONTACT: D. RADU		PHONE NO: 907-980-9936			
PROJECT: <b>Gustavus Dray</b>		SITE/PWSID#: 15-1089			
REPORTS TO: <b>Dumitru Radu</b>		E-MAIL: dradu@nortechengr.com			
INVOICE TO: <b>Fairbanks</b>		QUOTE P.O. #: 15-1089			

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX/ MATRIX CODE	#	SAMPLE TYPE C = COMP G = GRAB MI = Multi Incremental I Samples	Preserv Used	HCL		REMARKS/ LOC ID
								102/AK 103	GRO/BTEX by AK101/8021B	
① A-E	MW1-033016	3/30/2016	1335	water	5	GRAB	X	X		
② A-E	MW2-033016	3/30/2016	1535	water	5	GRAB	X	X		
③ A-E	MW3-033016	3/30/2016	1500	water	5	GRAB	X	X		
④ A-E	MW4-033016	3/30/2016	1615	water	5	GRAB	X	X		
⑤ A-E	MW5-033016	3/30/2016	1430	water	5	GRAB	X	X		
⑥ A-E	MW6-033016	3/30/2016	1645	water	5	GRAB	X	X		
⑦ A-E	MW31-033016	3/30/2016	1715	water	5	GRAB	X	X		
⑧ A-C	Trip Blank									



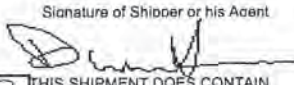
Collected/Relinquished By: (1)	Received By:	DOD Project? YES NO	Special Deliverable Requirements:
<i>Dumitru</i>	Time 0900	NO	STANDARD
Relinquished By: (2)	Time	Requested Turnaround Time and/or Special Instructions:	
Relinquished By: (3)	Time	STANDARD	
Relinquished By: (4)	Time 1649	Samples Received Cooler YES NO	Chain of Custody Seal: (Circle)
	Date 3/31/16	COOLER TB	INTACT BROKEN ABSENT
		Temperature °C: 40.0/41	IF

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

http://www.sgs.com/terms\_and\_conditions.htm

027 JNU 1615 3373

027-1615 3373

Shipper's Name and Address Nortech 2400 College Rd Fairbanks, AK 99709 USA Tel: 9074525688		Shipper's Account Number 27442126076 Customer's ID Number 10588		Not Negotiable <b>Air Waybill</b> Issued By  ALASKA AIRLINES & HORIZON AIR P.O. BOX 68900 SEATTLE, WA 98168 800-225-2752 ALASKACARGO.COM	
Consignee's Name and Address SGS North America Inc 200 W Potter Drive Anchorage, AK 99518 USA Tel: 9075622343		Consignee's Account Number 27400215947		Also notify <i>NOTED</i> Tel:	
Issuing Carrier's Agent and City		Accounting Information Nortech 2400 College Rd Fairbanks, AK 99709 USA SRN/15-1089 GoldStreak		10588 <b>1161456</b> 	
Agent's IATA Code		Account No.			
Airport of Departure (Addr. of First Carrier) and Requested Routing Juneau		Currency		Declared Value For Carriage	
To By First Carrier ANC Alaska Airlines		USD PX		NVD	
Flight/Date AS 061/31		Amount of Insurance XXX		Declared Value For Customs NCV	
Handling Information DANGEROUS GOODS IN EXCEPTED QUANTITIES DGD AND NOTOC NOT REQUIRED					
					SCI
No of Pieces	Gross Weight	kg	lb	Commodity Item No.	Chargeable Weight
1	39.0	L			39.0
Total		AS AGREED			
Nature and Quantity of Goods (Incl. Dimensions or Volume)		WATER SAMPLES  Dims: 24 x 13 x14 x 1  GSX REQ Volume: 2.528			
1	39.0				AS AGREED
Prepaid		Weight Charge		Collect	
AS AGREED				XBC 0.00	
Valuation Charge					
Tax					
Total Other Charges Due Agent					
Total Other Charges Due Carrier					
Total Prepaid		Total Collect			
AS AGREED					
Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.					
For: Nortech Signature of Shipper or his Agent 					
<input type="checkbox"/> THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS		<input checked="" type="checkbox"/> THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS			
31 Mar 2016 08:50		Juneau		Alaska Airlines	
Executed On (Date)		at (Place)		Signature of Issuing Carrier or its Agent	

027-1615 3373  
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1161456



SGS NORTH AMERICA INC  
Courier Slip

Date/Time: 3/31 1605

Signature: J Shumway

Deliver To/Pick-UP From:

ANC Intl

Description:

NORTECH JNU

1 COOLER

Bill Back To:

NORTECH JNU

FW-0083\_Courier\_Slip



1161456



## SAMPLE RECEIPT FORM

Review Criteria:	Yes	N/A	No	Comments/Action Taken:
Were <b>custody seals</b> intact? Note # & location, if applicable. COC accompanied samples?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Exemption permitted if sampler hand carries/delivers.</i> 1F
<b>Temperature blank</b> compliant* (i.e., 0-6°C after CF)? <i>If &gt;6°C, were samples collected &lt;8 hours ago?</i> <i>If &lt;0°C, were all sample containers ice free?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Exemption permitted if chilled &amp; collected &lt;8 hrs ago.</i>
Cooler ID: <u>1</u> @ <u>4.0</u> w/ Therm.ID: <u>D11</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ If samples are received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled."	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Note: Identify containers received at non-compliant temperature. Use form FS-0029 if more space is needed.</i>
Delivery method (specify all that apply): <input type="checkbox"/> Client (hand carried) <input type="checkbox"/> USPS <input type="checkbox"/> Lynden <input type="checkbox"/> AK Air <input type="checkbox"/> Alert Courier <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> RAVN <input type="checkbox"/> C&D Delivery <input type="checkbox"/> Carlie <input type="checkbox"/> Pen Air <input type="checkbox"/> Warp Speed <input checked="" type="checkbox"/> Other: <u>SGS</u> → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Yes	N/A	No	
Were samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Note: Refer to form F-083 "Sample Guide" for hold times.</i>
Do samples <b>match COC*</b> (i.e., sample IDs, dates/times collected)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Note: If times differ &lt;1hr, record details and login per COC.</i>
Were analyses requested unambiguous?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were samples in <b>good condition</b> (no leaks/cracks/breakage)? Packing material used (specify all that apply): <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Separate plastic bags <input type="checkbox"/> Vermiculite <input type="checkbox"/> Other:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were <b>proper containers</b> (type/mass/volume/preservative*) used? Were <b>Trip Blanks</b> (i.e., VOAs, LL-Hg) in cooler with samples? Were all VOA vials <b>free of headspace</b> (i.e., bubbles ≤6 mm)? Were all soil VOAs <b>field extracted</b> with MeOH+BFB?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <i>Exemption permitted for metals (e.g., 200.8/6020A).</i>
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was <b>pH verified and compliant</b> ? If pH was adjusted, were bottles <b>flagged</b> (i.e., stickers)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For <b>special handling</b> (e.g., "MP" soils, foreign soils, lab filter for dissolved..., lab extract for volatiles, Ref Lab, limited volume), were bottles/paperwork <b>flagged</b> (e.g., sticker)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
For <b>RUSH/SHORT Hold Time</b> , were COC/Bottles <b>flagged</b> accordingly? Was Rush/Short HT email sent, if applicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
For <b>SITE-SPECIFIC QC</b> , e.g. BMS/BMSD/BDUP, were containers / paperwork <b>flagged</b> accordingly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>For any question answered "No,"</b> has the PM been notified and the problem resolved (or paperwork put in their bin)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SRF Completed by: ANY 3/31/16 PM notified:
Was <b>PEER REVIEW</b> of <b>sample numbering/labeling completed</b> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Peer Reviewed by:
Additional notes (if applicable):				
<i>Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.</i>				



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1161456001-A	HCL to pH < 2	OK			
1161456001-B	HCL to pH < 2	OK			
1161456001-C	HCL to pH < 2	OK			
1161456001-D	HCL to pH < 2	OK			
1161456001-E	HCL to pH < 2	OK			
1161456002-A	HCL to pH < 2	OK			
1161456002-B	HCL to pH < 2	OK			
1161456002-C	HCL to pH < 2	OK			
1161456002-D	HCL to pH < 2	OK			
1161456002-E	HCL to pH < 2	OK			
1161456003-A	HCL to pH < 2	OK			
1161456003-B	HCL to pH < 2	OK			
1161456003-C	HCL to pH < 2	OK			
1161456003-D	HCL to pH < 2	OK			
1161456003-E	HCL to pH < 2	OK			
1161456004-A	HCL to pH < 2	OK			
1161456004-B	HCL to pH < 2	OK			
1161456004-C	HCL to pH < 2	OK			
1161456004-D	HCL to pH < 2	OK			
1161456004-E	HCL to pH < 2	OK			
1161456005-A	HCL to pH < 2	OK			
1161456005-B	HCL to pH < 2	OK			
1161456005-C	HCL to pH < 2	OK			
1161456005-D	HCL to pH < 2	OK			
1161456005-E	HCL to pH < 2	OK			
1161456006-A	HCL to pH < 2	OK			
1161456006-B	HCL to pH < 2	OK			
1161456006-C	HCL to pH < 2	OK			
1161456006-D	HCL to pH < 2	OK			
1161456006-E	HCL to pH < 2	OK			
1161456007-A	HCL to pH < 2	OK			
1161456007-B	HCL to pH < 2	OK			
1161456007-C	HCL to pH < 2	OK			
1161456007-D	HCL to pH < 2	OK			
1161456007-E	HCL to pH < 2	OK			
1161456008-A	HCL to pH < 2	OK			
1161456008-B	HCL to pH < 2	OK			
1161456008-C	HCL to pH < 2	OK			
1161456008-D	HCL to pH < 2	OK			
1161456008-E	HCL to pH < 2	OK			

Container Id

Preservative

Container  
Condition

Container Id

Preservative

Container  
Condition

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.



May 2016

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# **ATTACHMENT C**

## **LABORATORY DATA REVIEW CHECKLIST**

## Laboratory Data Review Checklist

Completed by:	Dumitru Radu		
Title:	Environmental Scientist	Date:	May 6, 2016
CS Report Name:	610 Douglas Rd, Hoonah	Report Date:	Apr 15, 2016
Consultant Firm:	NORTECH		
Laboratory Name:	SGS Alaska	Laboratory Report Number:	1161456
ADEC File Number:	150738015	ADEC RecKey Number:	

### 1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

☒ Yes      ☐ No      ☐ NA (Please explain.)      Comments:

--

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

☐ Yes      ☐ No      ☒ NA (Please explain)      Comments:

samples were not transferred to another laboratory.
---

### 2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

--

b. Correct analyses requested?

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

--

### 3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ( $4^{\circ} \pm 2^{\circ} \text{C}$ )?

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

--

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

☒ Yes      ☐ No      ☐ NA (Please explain)

Comments:

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

☒ Yes      ☐ No      ☐ NA (Please explain)

Comments:

No issues

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

☐ Yes      ☐ No      ☒ NA (Please explain)

Comments:

No issues

e. Data quality or usability affected? (Please explain)

Comments:

Data quality or usability not affected

#### 4. Case Narrative

a. Present and understandable?

☒ Yes      ☐ No      ☐ NA (Please explain)

Comments:

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

☐ Yes      ☒ No      ☐ NA (Please explain)

Comments:

c. Were all corrective actions documented?

☐ Yes      ☐ No      ☒ NA (Please explain)

Comments:

No corrective actions required

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

Comments:

Data quality/usability not affected.

## 5. Samples Results

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

☒ Yes    ☐ No    ☐ NA (Please explain)

Comments:

b. All applicable holding times met?

☒ Yes    ☐ No    ☐ NA (Please explain)

Comments:

c. All soils reported on a dry weight basis?

☐ Yes    ☐ No    ☒ NA (Please explain)

Comments:

water samples only

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

☒ Yes    ☐ No    ☐ NA (Please explain)

Comments:

e. Data quality or usability affected? (Please explain)

Comments:

No

## 6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☒ Yes    ☐ No    ☐ NA (Please explain)

Comments:

ii. All method blank results less than PQL?

☒ Yes    ☐ No    ☐ NA (Please explain)

Comments:

iii. If above PQL, what samples are affected?

Comments:

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

☐ Yes      ☒ No      ☐ NA (Please explain)      Comments:

v. Data quality or usability affected? (Please explain)

Comments:

data quality or usability not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

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

☐ Yes      ☐ No      ☒ NA (Please explain)      Comments:

Analysis not requested

iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☒ Yes      ☐ No      ☐ NA (Please explain)      Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

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

☐ Yes    ☐ No    ☐ NA (Please explain)    Comments:

vii. Data quality or usability affected? (Please explain)

Comments:

data quality/usability not affected

c. Surrogates - Organics Only

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

☒ Yes    ☐ No    ☐ NA (Please explain)    Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☒ Yes    ☐ No    ☐ NA (Please explain)    Comments:

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

☐ Yes    ☐ No    ☒ NA (Please explain)    Comments:

No failed recoveries.

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

Comments:

Data quality/usability not affected

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

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

☒ Yes    ☐ No    ☐ NA (Please explain.)    Comments:

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

☐ Yes    ☐ No    ☒ NA (Please explain.)    Comments:

only one cooler used for sample shipment

iii. All results less than PQL?

☒ Yes      ☐ No      ☐ NA (Please explain.)

Comments:

iv. If above PQL, what samples are affected?

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

Data quality/usability not affected.

e. Field Duplicate

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

☒ Yes      ☐ No      ☐ NA (Please explain)

Comments:

ii. Submitted blind to lab?

☒ Yes      ☐ No      ☐ NA (Please explain.)

Comments:

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

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

Where  $R_1$  = Sample Concentration

$R_2$  = Field Duplicate Concentration

☒ Yes      ☐ No      ☐ NA (Please explain)

Comments:

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

☐ Yes      ☒ No      ☐ NA (Please explain)

Comments:

Data quality/usability not affected.

f. Decontamination or Equipment Blank (if applicable)

☐ Yes      ☐ No      ☐ NA (Please explain)

Comments:

i. All results less than PQL?

☐ Yes      ☐ No      ☐ NA (Please explain)

Comments:

ii. If above PQL, what samples are affected?

Comments:

iii. Data quality or usability affected? (Please explain.)

Comments:

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

a. Defined and appropriate?

☐ Yes      ☐ No      ☐ NA (Please explain)

Comments:

Reset Form

**ATTACHMENT D**  
**TABLE 4 – WATER SAMPLE RESULTS**

Table 4  
Groundwater Results From Each Sampling Event

Sample ID	ADEC	MW-1			MW-2			MW-3			MW-4			MW-5			MW-6		
Sample Collection Date		8/25/15	10/14/15	3/30/16	8/25/15	10/14/15	3/30/16	8/25/15	10/14/15	3/30/16	8/25/15	10/14/15	3/30/16	8/25/15	10/14/15	3/30/16	8/25/15	10/14/15	3/30/16
Analyte	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Petroleum Fractions																			
DRO	1.5	2.58	0.9160	1.76	0.691	1.55	0.573	0.556 U	2.23	2.37	0.577 U	0.288U	0.283U	0.577 U	0.288U	0.283U	0.556 U	0.188J	0.8370
GRO	2.2	10.9	3.74	13.2	0.196	0.1380	0.042	7.42	20.4	11.0	0.100 U	0.0722J	0.0500U	0.100 U	0.0500U	0.0500U	0.100 U	0.1260	2.31
RRO	1.1	0.463 U	0.6670	0.240U	0.463 U	0.8350	0.369J	0.463 U	0.7840	0.323J	0.481 U	0.5880	0.160J	0.481 U	0.381J	0.192J	0.463 U	0.6360	0.314J
VOCs																			
Benzene	0.005	0.0559	0.14	0.105	0.00268	0.0023	0.00085	1.38	2.05	0.750	0.0005 U	0.0027	0.00025U	0.0005 U	0.00043J	0.00025U	0.00315	0.0196	0.0155
Ethylbenzene	0.7	0.186	0.0238	0.368	0.0034	0.00079J	0.00056J	0.116	0.3590	0.195	0.001 U	0.0013	0.0005U	0.001 U	0.0005U	0.0005U	0.001 U	0.00057J	0.1800
o-Xylene			0.0639	0.501		0.00067J	0.00043J		0.6180	0.2820		0.0027	0.0005U		0.0005U	0.0005U		0.0107	0.4530
P & M Xylene			0.1700	1.26		0.0037	0.00153J		1.3200	0.7280		0.0052	0.0010U		0.00037J	0.0010U		0.0082J	0.2960
Total Xylenes	10.0	1.74	0.2339	1.761	0.03049	0.0044	0.0020J	0.3	1.9380	1.0100	0.003 U	0.0079	0.0015U	0.003 U	0.0009J	0.0015U	0.00896	0.0189	0.7490
Toluene	1.00	0.852	0.1230	3.47	0.00711	0.00069J	0.00071 J	2.43	5.05	2.94	0.001 U	0.0096	0.0005U	0.001 U	0.00097J	0.0005U	0.00119	0.0024	0.0666

# **ATTACHMENT E**

## **PHOTO PAGE**



**Photo 1:** View of the hand dug excavation on the north side of the fuel storage area.



**Photo 2:** A five gallon bucket is placed under the leaking pipe(s) to capture fuel.