BGES, INC.

ENVIRONMENTAL CONSULTANTS

FORMER CUSTOM TRUCK
(CURRENTLY SIX ROBBLEE'S)
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA

GROUNDWATER MONITORING REPORT (JULY 2017)

JANUARY 2018

Submitted to:

Richard Metcalf
Six Robblee's, Inc.
11010 Tukwila International Road
Seattle, Washington 98168

Submitted by:

BGES, INC.
1042 East 6th Avenue
Anchorage, Alaska 99501
Ph: (907) 644-2900
Fax: (907) 644-2901

www.BGESINC.com

TABLE OF CONTENTS

FIGURES (Located at End of report)

TABLES (Located at End of Report)

APPENDICES (Located at End of Report)

ACRONYMS

AAC	-	Alaska Administrative Code
ADEC	-	Alaska Department of Environmental Conservation
AK	-	Alaska Method
BGES	-	Braunstein Geological and Environmental Services
BTEX	-	Benzene, Toluene, Ethylbenzene, and Total Xylenes
°C	-	Degrees Celsius
CSM	-	Conceptual Site Model
DRO	-	Diesel Range Organics
EPA	-	Environmental Protection Agency
GeoTek	-	GeoTek Alaska, Inc.
GRO	-	Gasoline Range Organics
HCL	-	Hydrochloric Acid
LCS	-	Laboratory Control Spike
LCSD	-	Laboratory Control Spike Duplicate
LOQ	-	Limit of Quantitation
ml/min	-	Milliliters Per Minute
MRL	-	Method Reporting Limit
PAHs	-	Polynuclear Aromatic Hydrocarbons
QC	-	Quality Control
QEP	-	Qualified Environmental Professional
RPD	-	Relative Percent Difference
RRO	-	Residual Range Organics
SGS	-	SGS North America, Inc.
Six Robblee's	-	Six Robblee's, Inc.
UST	-	Underground Storage Tank
VOCs	-	Volatile Organic Compounds

1.0 INTRODUCTION

BGES, Inc. (BGES) was retained by Richard Metcalf of Six Robblee's, Inc. (Six Robblee's) to conduct groundwater sampling at the Six Robblee's property located at 4748 Old Seward Highway, Anchorage, Alaska; hereafter referred to as the subject property (Figure 1). The purpose of this groundwater monitoring event was to assess the groundwater quality at the subject property. The fieldwork for this round of sampling was performed on July 12 and 13, 2017 in accordance with the work plan prepared by BGES (dated June 15, 2017), which was approved by the ADEC via correspondence dated June 26, 2017. The Alaska Department of Environmental Conservation (ADEC) changed the site status from "cleanup-complete with institutional controls" to "Active" in correspondence dated August 14, 2013. The ADEC Hazard Identification Number is 23658 and the ADEC File Number is 2100.26.252 for the subject property.

2.0 BACKGROUND

The property is located in the central portion of Anchorage, Alaska (Figure 1). The property had previously operated for many years as an automotive dealership that had on-site underground storage tanks (USTs) for fuel needs. Fuel is no longer dispensed at the site, and the tanks were removed in 1994. A one-story building that is operated as an automotive shop and accessory retail store is located on the property. The area west of the building is used for bulk storage of truck tops and auto accessories.

Numerous previous assessments have been performed by various environmental consulting firms at the site, including a 2004 Site Closure Report performed by Chemtrack. On June 14, 2004 the ADEC issued a "No Further Remedial Action Planned" status for this site. In addition, a "Record of Decision" was also issued for the site on the same date. In these documents, it was stated that quarterly groundwater monitoring in accordance with an approved work plan must be instituted.

BGES was contracted in 2005 to review the previous work plan and to resume groundwater sampling activities in accordance with the No Further Remedial Action Planned and Institutional Control Record of Decision documentation. The results of the previous groundwater sampling event, completed in June of 2016, were presented in the February 2017 Groundwater Monitoring Report.

3.0 PREVIOUS SITE WORK

Two 5,000-gallon UST's, reportedly containing gasoline and diesel, were removed from the ground in July of 1994. Hydrocarbon contamination was observed in soils near the USTs and associated piping. In addition to removing the USTs, the excavation reportedly was continued to remove additional

contaminated soil. Approximately 280 cubic yards of soil were reportedly removed from the site and treated at an off-site facility. Elevated concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) were detected in remaining soils.

Groundwater sampling was first performed by BGES in June of 2005. Monitoring Wells that were sampled during this sampling event included; MW-1, MW-2, MW-5, MW-8, MW-11, MW-12, B6/VE, and the Tap Well (facility well). The results indicated contaminant concentrations exceeding the following ADEC cleanup criteria: gasoline range organics (GRO) in Monitoring Wells MW-1, MW-2, MW-8, and B6/VE; diesel range organics (DRO) in MW-1, MW-2, and B6/VE; benzene in MW-1, MW-2, MW-5, MW-8, MW-12, and B6/VE; toluene in MW-1, MW-2, and B6/VE; ethylbenzene in MW-1, MW-2, and B6/VE; and, total xylenes in MW-2. The water sample collected from the Tap Well (facility well) did not exhibit any analyte concentrations above the laboratory's method reporting limit (MRL) and the ADEC cleanup criteria.

Groundwater sampling was performed again by BGES in August of 2005. Monitoring wells that were sampled during this sampling event included MW-1, MW-2, MW-3, MW-5, B6/VE, MW-8, MW-9, MW-10, MW-11, MW-12, and MW-15. The results indicated contaminant concentrations exceeding the following ADEC cleanup criteria: GRO in MW-1, MW-2, MW-5, MW-8, MW-15, and B6/VE; DRO in MW-1, MW-2, MW-5, MW-11, MW-15, and B6/VE; residual range organics (RRO) in MW-1, MW-2, MW-5, B6/VE, MW-9, MW-11, MW-12, and MW-15; benzene in MW-1, MW-2, MW-5, B6/VE, MW-8, MW-11, MW-12, and MW-15.; toluene in MW-1, MW-2, MW-15, and B6/VE; ethylbenzene in MW-1, MW-2, MW-15, and B6/VE; and, total xylenes in MW-2 and MW-15.

Groundwater sampling was performed by BGES in March of 2006. Monitoring wells that were sampled during this sampling event included MW-1, MW-2, B6/VE, MW-11, and MW-12. Water samples were analyzed for GRO, DRO, RRO, and BTEX. The results from the March 2006 sampling event indicated that GRO, DRO, RRO, and BTEX concentrations exceeded the ADEC cleanup criteria in Monitoring Wells MW-1, MW-2, and B6/VE (except for total xylenes in B6/VE). Benzene concentrations exceeded the ADEC cleanup criterion in Monitoring Wells MW-11 and MW-12. Additionally, the RRO concentration in Water Sample MW12 exceeded the ADEC cleanup criterion.

Groundwater sampling was performed by BGES in September of 2006. Wells that were sampled during this sampling event included MW-1, MW-2, B6/VE, MW-5, MW-8, MW-11, MW-12, and the facility well. Water samples were analyzed for GRO, DRO, RRO, and BTEX. The results from the September 2006 sampling event indicated that GRO, DRO, and RRO concentrations exceeded the ADEC cleanup criteria in Monitoring Wells MW-1, MW-2, and B6/VE. Benzene concentrations exceeded the ADEC

cleanup criterion in each of the wells sampled, including the facility well. Concentrations of toluene and ethylbenzene exceeded the ADEC cleanup criteria in MW-1 and MW-2. Additionally, the toluene concentration in Water Sample B6/VE exceeded the ADEC cleanup criterion.

Groundwater sampling was performed by BGES in October of 2007. During that round of groundwater sampling, Monitoring Wells MW-1, MW-2, MW-3, MW-5, MW-8, MW-9, MW-10, MW-11, MW-12, MW-15, and B6/VE were sampled and analyzed for GRO, DRO, RRO, and BTEX. Additionally, Monitoring Wells MW-2 and MW-102 (duplicate of MW-2) were analyzed for polynuclear aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs). The results from the October 2007 sampling event indicated that GRO, DRO, RRO, benzene, toluene and ethylbenzene concentrations exceeded the ADEC cleanup criteria in MW-1, MW-2, and B6/VE (except for the RRO concentration in B6/VE). Benzene concentrations exceeded the ADEC cleanup criterion in every well sampled, except for Monitoring Wells MW-3, MW-9, and MW-10. Monitoring Well MW-8 exhibited a GRO concentration that exceeded the ADEC cleanup criterion in addition to the benzene exceedance described above. Monitoring Well MW-15 contained GRO, DRO, benzene, toluene, and ethylbenzene concentrations above the applicable ADEC cleanup criteria. None of the samples analyzed contained xylenes concentrations that exceeded the ADEC cleanup criterion. Two off-site, downgradient wells (MW-11 and MW-12) were tested and exhibited levels of contaminants that exceeded ADEC cleanup criteria.

Groundwater sampling was performed by BGES in August and September of 2012. Wells that were sampled during that sampling event included MW-1, MW-2, MW-3, MW-5, MW-8, MW-9, MW-10, MW-11, MW-13, MW-14, MW-15, and B6/VE, and were analyzed for GRO, BTEX, DRO, and RRO. In addition, a water sample was collected from the facility well, and was analyzed for VOCs. The results from the August and September 2012 sampling events indicated that the water samples collected from Monitoring Wells MW-1 and MW-17 (duplicate of MW-1) exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. The water samples collected from Monitoring Wells MW-2, MW-13, and MW-14 exhibited concentrations of GRO, BTEX, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. Water Samples MW-8 and MW-15 exhibited concentrations of benzene, which exceeded the ADEC cleanup criterion. In addition, Water Sample B6/VE exhibited concentrations of GRO, benzene, toluene, DRO, and RRO, which exceeded ADEC cleanup criteria.

Prior to the 2013 monitoring round, a building survey and some preliminary soil gas sampling, in addition to groundwater sampling, was performed by BGES in May and June of 2013. Sub-slab soil gas

samples collected from beneath the concrete slab in the southeastern portion of the building did not exhibit any analyte concentrations above the ADEC target levels for shallow soil gas**.** The groundwater samples collected from Monitoring Wells MW-2, MW-14, MW-13, and MW-20 exhibited concentrations of GRO, BTEX, DRO, and RRO that exceeded the respective ADEC cleanup criteria for these contaminants. In addition, Groundwater Samples MW-13 and MW-20 (duplicate of MW-13) exhibited concentrations of 1,2,4-trimethylbenzene and n-propylbenzene that exceeded the respective ADEC cleanup criteria for these contaminants. The groundwater samples collected from Monitoring Wells MW-1 and B6/VE exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO that exceeded the respective ADEC cleanup criteria for these contaminants. Groundwater Sample MW-15 exhibited concentrations of GRO, benzene, DRO, and RRO that exceeded the respective ADEC cleanup criteria for these contaminants.

Groundwater sampling was performed by BGES in April of 2014. Wells that were sampled included MW-1, MW-2, MW-5, MW-11, MW-12, MW-13, MW-14, MW-15, and B6/VE, and were analyzed for GRO, BTEX, DRO, and RRO. Many of the monitoring wells were in a damaged condition at the time of sampling, and one of the wells (MW-9) was submerged in water and was therefore not sampled during this event. In addition, a water sample was collected from the facility well and labeled "Facility Well", and was analyzed for VOCs. The results from the April 2014 sampling event indicated that each of the wells sampled, with the exception of Monitoring Well MW-11, exhibited concentrations of one or more analytes that exceeded the applicable ADEC cleanup criteria. The samples collected from Monitoring Wells MW-13, MW-14, and MW-16 (duplicate of MW-14) exhibited concentrations of GRO, BTEX, DRO, and RRO; all of which exceeded the respective ADEC cleanup criteria. The samples collected from Monitoring Wells MW-2 and B6/VE exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO that exceeded their respective ADEC cleanup criteria. The sample collected from Monitoring Well MW-1 exhibited concentrations of GRO, benzene, toluene, ethylbenzene, and DRO that exceeded the respective ADEC cleanup criteria for these analytes. The sample from Monitoring Well MW-5 exhibited a concentration of benzene that exceeded its ADEC cleanup criterion. The sample from Monitoring Well MW-12 exhibited a concentration of RRO that exceeded its ADEC cleanup criterion. The sample from Monitoring Well MW-15 exhibited concentrations of GRO, benzene, DRO, and RRO that exceeded their respective ADEC cleanup criteria.

On November 6, 2014, BGES met at the subject property with GeoTek Alaska, Inc. (GeoTek) of Anchorage, Alaska to repair the damaged monitoring wells. The flush-mounted covers were replaced

for Monitoring Well MW-8, MW-9, MW-11, and B6/VE. The well caps were replaced on Monitoring Wells MW-2, MW-3, MW-5, B6/VE, MW-8, MW-10, MW-12, MW-13, MW-14, and MW-15.

In a letter dated December 16, 2014; Joshua Barsis, ADEC Project Manager, agreed to reduce groundwater monitoring activities at the subject property from quarterly to annually.

Groundwater sampling was performed by BGES in June and July, of 2015. Groundwater samples were collected from Monitoring Wells MW-5, MW-8, MW-9, MW-12, and MW-14, and were analyzed for GRO, DRO, RRO, and BTEX. An additional sample was collected from a facility well and was analyzed for VOCs. Each of the wells sampled, with the exception of Monitoring Well MW-9 and the facility well, exhibited concentrations of one or more analytes that exceeded the applicable ADEC cleanup criteria. The samples collected from Monitoring MW-14 and MW-6R (duplicate of MW-14) exhibited concentrations of GRO, BTEX, DRO, and RRO; all of which exceeded the respective ADEC cleanup criteria for these analytes. The samples collected from Monitoring Wells MW-5 and MW-8 exhibited concentrations of benzene that exceeded the ADEC cleanup criterion for this analyte. The sample from Monitoring Well MW-12 exhibited a concentration of RRO that exceeded the ADEC cleanup criterion for this analyte. In addition, BGES decommissioned the sub-slab soil gas sampling point on July 21, 2015.

Groundwater sampling was performed by BGES in June of 2016. Groundwater samples were collected from Monitoring Wells MW3, MW-5, MW-8, MW-9, MW-12, and MW-14, and were analyzed for GRO, DRO, RRO, and BTEX. An additional sample was collected from a facility well and was analyzed for VOCs. Each of the wells sampled, with the exception of Monitoring Well MW-9 and the facility well, exhibited concentrations of one or more analytes that exceeded the applicable ADEC cleanup criteria. The samples collected from Monitoring MW-14 and MW-15 (duplicate of MW-14) exhibited concentrations of GRO, DRO, RRO, and BTEX; all of which exceeded the respective ADEC cleanup criteria for these analytes. The samples collected from Monitoring Wells MW-3, MW-5, and MW-8 exhibited concentrations of benzene that exceeded the ADEC cleanup criterion for this analyte. The sample from Monitoring Well MW-12 exhibited a concentration of RRO that exceeded the ADEC cleanup criterion for this analyte.

The annual groundwater monitoring activities performed in July of 2017 are the subject of this report, and details and the results of these activities are presented below.

4.0 GROUNDWATER SAMPLING ACTIVITIES (JULY 2017)

BGES collected groundwater samples from Monitoring Wells MW-3, MW-5, MW-8, MW-9, MW-12, and MW-14 on July 12 and 13, 2017 (Figure 2) in accordance with the *2017 Groundwater Monitoring Activities* work plan (published June 15, 2017), which was approved by the ADEC via correspondence dated June 26, 2017. There were no deviations from the work plan for these groundwater monitoring activities.

Prior to sample collection, the depth to water and the total depths of each well were measured using an electronic water level indicator, that was decontaminated prior to its use in each well by washing it in an Alconox (laboratory-grade detergent) solution, followed by a potable water rinse. The depth to water, the total depth of each well, the water quality parameters obtained during the well purging activities, the depth of the bladder pump intake, and the pumping rate during sample collection are presented in Table 1.

Prior to the collection of groundwater samples, the casing volume for each well was calculated. The wells were purged utilizing a positive displacement bladder pump until water quality parameters stabilized in accordance with the ADEC Field Sampling Guidance (August 2017). During the purging activities, the stabilization parameters (pH, conductivity, oxidation-reduction potential, and temperature) were monitored, utilizing a YSI Professional Pro Multi-Parameter water quality meter. Upon completion of the purging activities, the groundwater samples were collected utilizing a low-flow sampling technique and an approximate flow rate that ranged between 50 and 60 milliliters per minute (ml/min), with one exception; the sampling rate during collection of Water Sample MW8 was 110 mL/min. Portions of the samples scheduled for volatiles analyses were collected first by filling laboratory-supplied containers that were preserved with hydrochloric acid (HCL). Care was taken during filling of the containers to ensure that no headspace was left within the containers and that none of the preservative was spilled. Two duplicate water samples were collected during this monitoring event. A duplicate sample was collected from Monitoring Well MW-8 (labeled MW17) on July 13, 2017 and a duplicate sample was collected from MW-14 (labeled MW16) on July 12, 2017. These duplicate samples were submitted "blindly" to the laboratory for analyses.

The sample containers were labeled, placed in a chilled cooler, and transported to SGS North America, Inc. (SGS), an ADEC-approved laboratory for analysis, under chain of custody protocol. As a quality control measure, a trip blank sample accompanied the water samples scheduled for volatile analyses during the entire sampling and handling process.

BGES surveyed the top of casings' and ground elevations for each of the existing monitoring wells during the 2015 sampling activities. Utilizing the 2015 surveyed monitoring well elevations and the measured depths to water obtained on July 12, 2017, the groundwater elevation in each monitoring well was calculated. Then, the calculated groundwater elevations were utilized to create a groundwater elevation contour map, which suggests that the general groundwater flow direction was to the south-southeast across the subject property (Figure 3). The calculated hydraulic gradient was 0.013 foot per linear foot. The depth to water, the total depth of the wells, the water quality parameters, and the calculated water elevations are presented in Table 1.

Investigation-derived waste generated (purge water) was containerized in one 55-gallon drum. The investigation-derived waste is currently stored inside in the southeast corner of the automotive shop. The 55-gallon drum was clearly labeled with the contact information and a description of the contents (potentially-contaminated water). A copy of field notes taken during groundwater monitoring activities are included in Appendix A.

5.0 EVALUATION OF LABORATORY DATA

Laboratory analysis of the water samples were performed by SGS, an ADEC-approved laboratory. The analytical results for the water samples are listed in Table 2 and a copy of the laboratory data package is included in Appendix B. The analytical results for water samples were compared to the ADEC Cleanup Criteria listed in 18 Alaska Administrative Code (AAC) 75.345—Table C for groundwater as revised on November 7, 2017.

The water samples from the monitoring wells were analyzed by the following methods: GRO by Alaska Method (AK) 101; DRO by AK 102; RRO by AK 103; and BTEX by Environmental Protection Agency (EPA) Method 8021B. The water sample from the facility well was analyzed for VOCs by EPA method 524.2.

The water samples collected from the subject property were numbered, for example, MW3-0713, where the prefix MW3 indicates the monitoring well from which the water sample was collected; and 0713 indicates the month and day the sample was collected. For brevity in the text and in the associated figures, these samples are referred to as MW-3 with the date omitted. MW16-0712 is a duplicate sample collected from MW14 and MW17-0713 is a duplicate sample collected from MW8. FW1-0713 is the sample collected from the facility well and is labeled in the same format as described above.

Samples MW-14 and MW-16 (duplicate of MW-14) exhibited elevated concentrations of GRO, DRO, and BTEX; all of which exceeded their respective ADEC cleanup criteria for these analytes.

Samples MW-8 and MW-17 (duplicate of MW-8) exhibited concentrations of benzene which were below the ADEC cleanup criterion for this analyte. Sample MW-5 also exhibited a concentration of benzene that was below the ADEC cleanup criterion. Sample MW-12 exhibited a concentration of RRO that exceeded the ADEC cleanup criterion for this analyte.

The remaining Samples MW-3, MW-9, and FW-1 exhibited non-detectable concentrations that were below the laboratory's limits of quantitation (LOQs), which were below the applicable ADEC cleanup criteria. The LOQs for 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane, and vinyl chloride in Sample FW-1 were above the ADEC cleanup criteria for these analytes. These LOQ exceedances are discussed further in Section 6.0 below.

Analytical results for the groundwater samples are presented in Tables 2 and 3, a copy of the laboratory analytical data package is included in Appendix B, and the sampling locations are shown on Figure 2.

6.0 LABORATORY DATA QUALITY REVIEW

Data quality was reviewed in accordance with ADEC guidance and standard industry practices. An ADEC laboratory data review checklist was completed for the laboratory work order number, and this checklist is included in Appendix C. The checklist provides an overview of the quality of the laboratory data. The following is a discussion of our evaluation of sample conditions and laboratory procedures for the water samples collected during the July 2017 sampling activities.

SGS Work Order 1174480

The sample containers were labeled, placed in an ice-filled cooler, and hand-delivered by BGES personnel to SGS under chain of custody protocol. The trip blanks accompanied the volatile samples (GRO, BTEX, and VOCs) throughout the entirety of the sampling process and transportation to the laboratory. The samples contained the proper preservatives for the requested analyses, and no unusual sample conditions were noted by the laboratory at the time of their receipt. The case narrative for Work Order Number 1174480 noted that there were a few quality control (QC) failures identified by SGS.

The temperature of the sample cooler that contained the water samples was measured at the laboratory at the time of receipt to be 5.7 degrees Celsius (°C), which is within the ADEC prescribed optimal range of 0° to 6° C.

The recoveries of dichlorodifluoromethane and bromomethane within the laboratory control spike (LCS) sample associated with Sample FW1-0713, and its associated trip blank, exceeded the laboratory's acceptance range. This indicates a potential for the reported concentration of these analytes to be biased high in the project samples. However, because none of these analytes were detected above

their LOQs, and because the LOQs are below their respective ADEC cleanup criteria; it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The recoveries of dichlorodifluoromethane, chloromethane, and bromomethane within the laboratory control spike duplicate (LCSD) sample associated with Sample FW1-0713, and its associated trip blank, exceeded the laboratory's acceptance range. This indicates a potential for the reported concentration of these analytes to be biased high in the project samples. However, because none of these analytes were detected above their LOQs, and because the LOQs are below their respective ADEC cleanup criteria; it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The LOQs for 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane, and vinyl chloride exceeded the ADEC cleanup criteria in Sample FW-0713 that was analyzed as part of this SGS work order. The affected analytes are shown in italics in Table 2. In these instances, where the analytes were not detected above the LOQs, it cannot be determined if the actual concentrations of those analytes exceed the applicable ADEC cleanup criteria.

No other issues associated with the data quality were identified with respect to the analyses of the project samples in this work order.

Sample MW16-0712 was a duplicate of MW14-0712 and MW17-0713 was a duplicate of MW8-0713 and was collected to evaluate field sampling precision. The relative percent differences (RPDs) between the reported concentrations of several analytes for both sample pairs ranged between 0 and 14 percent, which are below the acceptable limit of 30 percent. This indicates good field sampling precision with respect to sampling procedures. The RPDs between reported concentrations of the remaining analytes could not be calculated, as the analytes were not detected at the laboratory's LOQs in one or both of these sample pairs.

7.0 CONCEPTUAL SITE MODEL

A graphical human health conceptual site model (CSM) was developed for this site and was included in BGES' Groundwater Sampling Report (dated December 2007). It is our opinion that the CSM is still valid for this site, and as such has not been modified based on the results of this sampling event.

8.0 CONCLUSIONS

A groundwater monitoring event at this site was conducted on July 12 and 13, 2017. Groundwater samples collected from Monitoring Wells MW3, MW5, MW8, MW9, MW12, and MW14 were analyzed for GRO, DRO, RRO, and BTEX. Sample FW-1 was collected from the facility well and was analyzed for VOCs. Sample MW-12 exhibited a concentration of RRO which exceeded the applicable

ADEC cleanup criterion. Samples MW-14 and MW-16 (duplicate of MW14), exhibited concentrations of GRO, DRO, and BTEX which exceeded the applicable ADEC cleanup criteria. All other groundwater samples collected during this groundwater monitoring event exhibited analyte concentrations which were below the applicable ADEC cleanup criteria.

Historical trends demonstrate that all the wells sampled show overall decreasing concentrations. Based on these results, it is recommended that the groundwater monitoring activities be reduced to once every two years. Historical laboratory analytic results are provided in Table 3, and graphical representations of contaminant concentrations within the wells sampled during this sampling event as measured over time are provided in Appendix D with the exception of MW3 and MW9. It is recommended that all purge water be disposed of at an appropriate disposal facility such as NRC Alaska.

9.0 EXCLUSIONS AND CONSIDERATIONS

This report presents facts, observations, and inferences based on conditions observed during the period of our project activities, and only those conditions that were evaluated as part of our scope of work. Our conclusions are based solely on our observations made and work conducted and only apply to the immediate vicinities of the locations where samples were collected. In addition, changes to site conditions may have occurred since the completion of our project activities. These changes may be from the actions of man or nature. Changes in regulations may also impact the interpretation of site conditions. BGES will not disclose our findings to any parties other than our client as listed above, except as directed by our client, or as required by law.

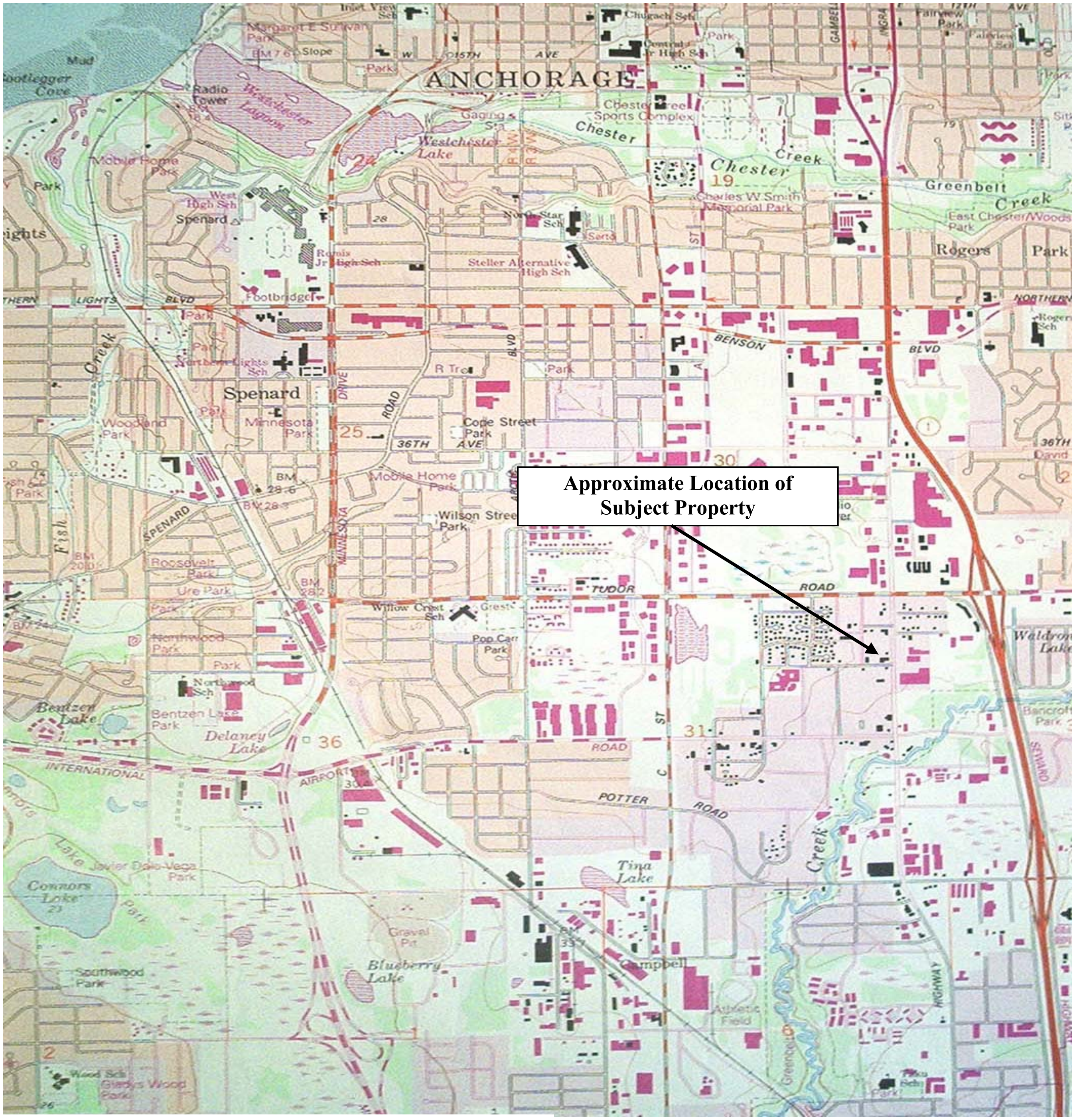
Groundwater sampling for this monitoring event was conducted by Evan Tyler; Environmental Engineer with BGES, under the direct supervision of William Schmaltz, Environmental Scientist with BGES, and Jayne Martin, Senior Environmental Scientist with BGES, both are Qualified Environmental Professionals (QEPs) as defined by the ADEC. This report was prepared by Mr. Tyler. Mr. Tyler has conducted groundwater monitoring, site characterization, and remediation activities at several sites in the Anchorage area and throughout Alaska. This report was reviewed by Jayne Martin, who has more than 25 years of geological and environmental consulting experience, and has conducted and managed hundreds of site characterization and remediation efforts throughout Alaska and the lower 48 states.

Prepared By:

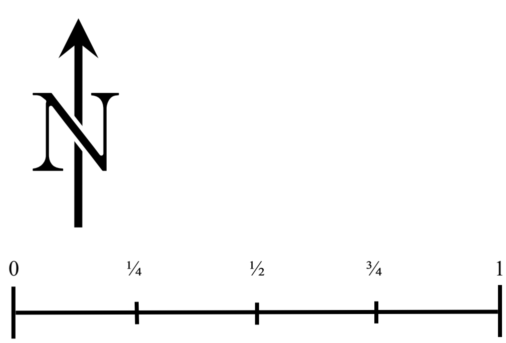
Evan Tyler
Environmental Engineer

Reviewed By:

Jayne Martin
Senior Environmental Scientist



Source: USGS Map, Anchorage (A-8) NW, Alaska 1979, Revised 1994.



Approximate Scale in Miles

Former Custom Truck (Currently Six Robblee's)
4748 Old Seward Highway
Anchorage, Alaska
Property Vicinity Map

BGES, INC.	January 2018	Figure 1

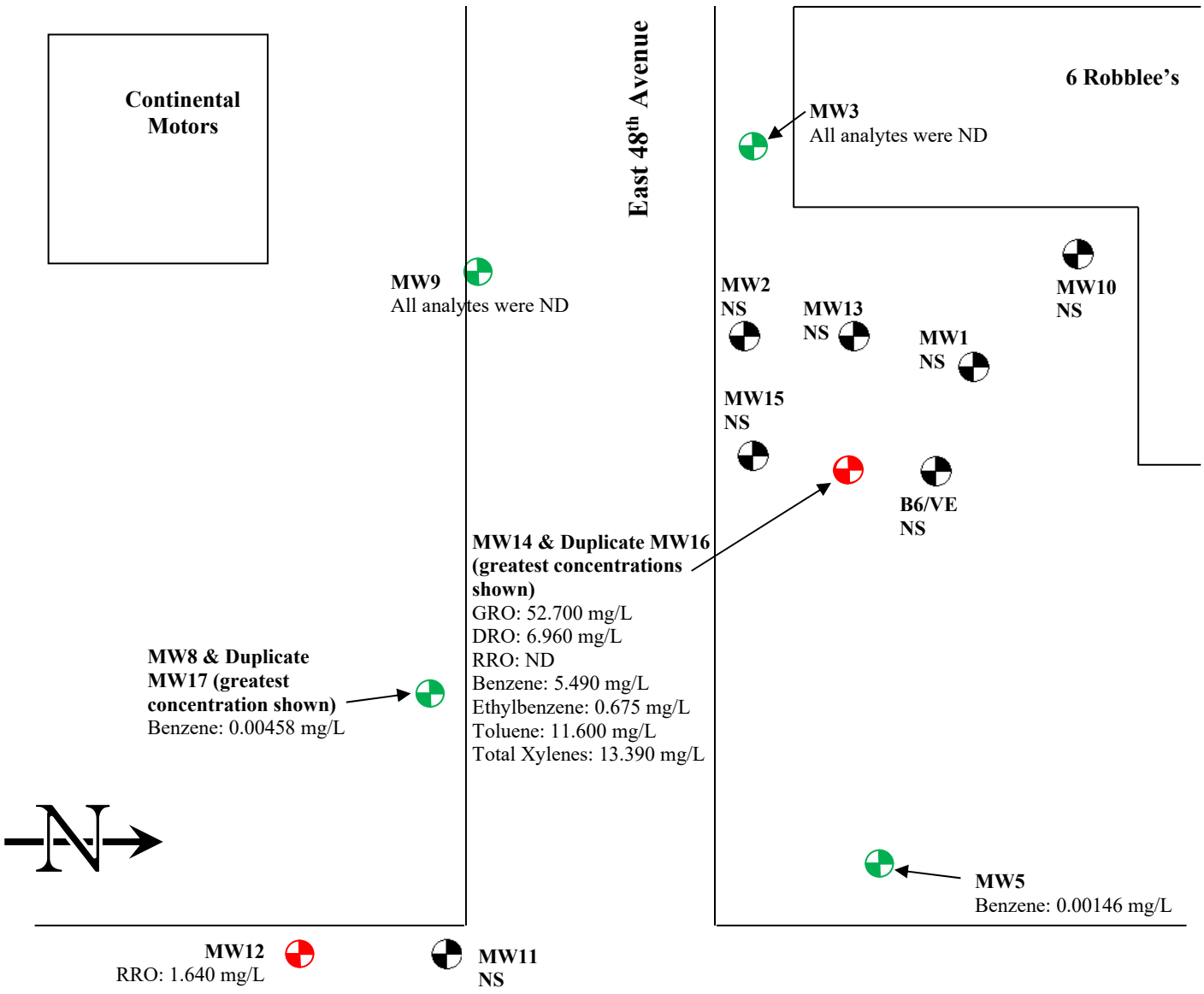


Figure adapted from Chemtrack DRO history diagram.

0 25 50

Approximate Scale in Feet

LEGEND

= Monitoring Well Not Sampled

= Monitoring well exhibited analyte concentrations exceeding ADEC cleanup criteria

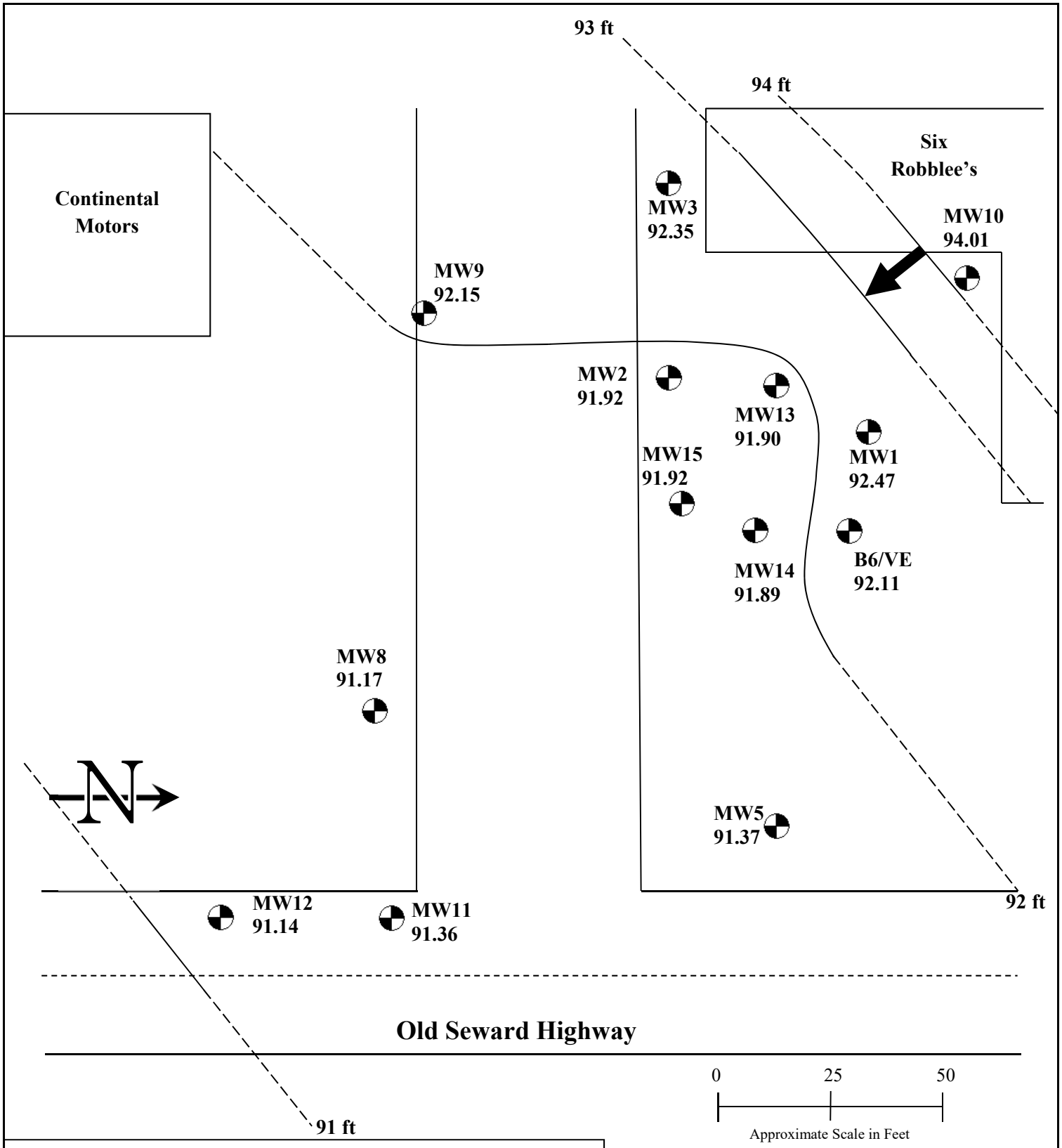
= Monitoring well exhibited analyte concentrations below ADEC cleanup criteria

mg/L = milligrams/liter; ND = not detectable: LOQ = limit of quantitation;

NS = Not Sampled

Former Custom Truck (Currently Six Robblee's)
4748 Old Seward Highway
Anchorage, Alaska
Monitoring Well Locations and Sampling Results (July 2017)

BGES, INC. | **January 2018** | **Figure 2**



LEGEND

= Monitoring Well

= Groundwater Elevation Contour, in feet (dashed where extrapolated)

= Approximate Groundwater Flow Direction

Notes:

- Water elevations are noted in bold next to each monitoring well number
- Contour Interval is 1 foot (ft)
- The hydraulic gradient is approximately 0.013 foot per linear foot

Former Custom Truck
(Currently Six Robblee's)
4748 Old Seward Highway
Anchorage, Alaska
Groundwater Elevation Contour Map (July 2017)

BGES, INC.

January 2018

Figure 3

TABLE 1
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
MONITORING WELL SAMPLING DATA (JULY 2017)

BGES, INC.

Well Number	MW1	MW2	MW3	MW5	MW8	MW9	MW10	MW11	MW12	MW13	MW14	MW15	B6/VE
Date Sampled	-	-	7/13/2017	7/12/2017	7/13/2017	7/13/2017	-	-	7/12/2017	-	7/12/2017	-	-
Date of Depth to Water Measurement	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017	7/12/2017
Time of Depth to Water Measurement	7:59	7:50	10:48	08:20	08:15	08:08	08:03	09:26	09:20	07:55	07:38	07:44	07:32
Time Sample Collected	-	-	11:18	12:32	14:02	9:35	-	-	10:27	-	15:30	-	-
Top of Casing Elevation (feet)	100.59	97.79	97.65	99.13	97.22	97.50	101.32	96.62	96.03	99.21	99.33	97.78	99.75
Depth to Water (feet below top of casing)	8.12	5.87	5.30	7.76	6.05	5.35	7.31	5.26	4.89	7.31	7.44	5.86	7.64
Water Elevation (feet)	92.47	91.92	92.35	91.37	91.17	92.15	94.01	91.36	91.14	91.90	91.89	91.92	92.11
Total Depth of Well (feet below top of casing)	21.67	12.84	8.69	12.78	13.74	13.19	14.55	6.29	8.12	11.18	12.81	10.24	12.86
Well Casing Diameter (Inches)	2	2	2	2	2	2	2	2	2	2	2	2	4
Standing Water Well Volume (gallons)	2.21	1.14	0.55	0.82	1.26	1.28	1.18	0.17	0.53	0.63	0.88	0.71	3.41
Purge Volume-Actual (gallons)	-	-	0.8	0.8	1.0	0.5	-	-	0.7	-	2.4	-	-
Temperature (degrees Celsius)	-	-	14.6/14.1/14.3/14.4/14.7	12.5/12.0/11.8/13.0/12.9/12.7/13.3/13.0	13.6/13.2/13.0/12.5/12.3/12.6/12.5/12.4	15.9/12.3/12.6/12.1/12.7	-	-	13.2/16.1/17.6/13.8/13.4/13.6/13.4	-	13.6/13.4/12.7/12.6/12.1/12.0/12.1/11.9/12.0/11.8/11.6/11.8/12.0/12.2/12.2	-	-
pH (standard units)	-	-	6.55/6.52/6.48/6.47/6.48	6.39/6.38/6.38/6.40/6.43/6.45/6.43/6.48	6.42/6.43/6.45/6.46/6.47/6.49/6.51/6.52	6.26/6.20/6.20/6.23/6.24	-	-	5.91/6.08/6.35/6.38/6.32/6.30/6.28	-	5.60/5.50/5.51/5.47/5.55/5.56/5.62/5.66/5.67/5.62/5.77/5.77/5.77/5.75/5.73	-	-
Conductivity (microsiemans per centimeter)	-	-	1080/1023/1005/1004/1014	2180/2128/2060/2085/2177/2247/2302/2297	998/1018/1126/1260/1344/1380/1388/1385	1248/1993/2005/2031/2037	-	-	105.4/108.6/114.6/114.5/113.3/113.8/114.0	-	158.3/147.6/127.0/159.0/179.8/186.4/192.1/200.2/202.5/203.0/204.0/184.0/181.9/187.4/186.4	-	-
Oxidation Reduction Potential (millivolts)	-	-	37.6/40.8/43.1/45.2/45.0	-27.7/-26.4/-26.9/-30.8/-37.5/-41.5/-44.2/-44.5	17.3/-8.8/-31.1/-45.5/-54.4/-60.3/-67.4/-66.3	44.6/51.6/52.1/52.2/52.6	-	-	0.2/-88.7/-119.3/-131.8/-138.8/-140.0/-140.3	-	47.2/49.2/60.1/64.6/65.1/64.9/64.2/63.0/61.5/50.5/58.8/58.3/57.5/57.3/57.5	-	-
Depth of Bladder Pump Intake (feet below top of casing)	-	-	4.80	7.26	5.38	4.35	-	-	4.22	-	6.77	-	-
Purge Rate During Sample Collection (ml/min)	-	-	Approximately 60	Approximately 50	Approximately 110	Approximately 50	-	-	Approximately 50	-	Approximately 50	-	-
Notes: Values separated by / indicate readings for successive well volumes Sampler: E. Tyler Field parameters measured with a YSI Professional Plus Multi-Meter Weather conditions on July 12 and 13, 2017 were clear skies with temperatures ranging from approximately 58 to 70 degrees Fahrenheit.			Purge Rate was decreased at 11:08.	Initially tan colored purge water. Purge water was clear at the time of sampling. Purge rate decreased at 11:25.	Slight tan color upon initial purging. Clear colored purge water at end of purging. A duplicate sample MW17-0713 was collected from MW8.	Standing water inside metal monument. Purge water was clear initially. Pump submerged to max drawdown level (0.3 foot) due to slow recharge rate.		Total Depth of well changed from 13.95 feet (June 2016) to 6.29 feet (July 2017) between successive sampling events.	Dark brown colored purge water initially. Slightly lighter color purge water by end of sampling. Purge rate increased at 9:45		A duplicate sample was collected from MW-14 and was labeled MW16-0712. Clear purge water initially. Purge water looks soapy. Purge rate decreased at 14:15.		

TABLE 2
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
GROUNDWATER ANALYTICAL RESULTS (JULY 2017)

Sample No.	Parameter	Results (mg/L)	LOQ (mg/L)	ADEC Cleanup Criteria (mg/L)[1]	Analytical Method
MW3-0713	GRO	ND	0.100	2.200	AK 101
	DRO	ND	0.566	1.500	AK 102
	RRO	ND	0.472	1.100	AK 103
	Benzene	ND	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B
MW5-0712	GRO	ND	0.100	2.200	AK 101
	DRO	ND	0.551	1.500	AK 102
	RRO	ND	0.460	1.100	AK 103
	Benzene	0.00146	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B
MW8-0713	GRO	ND	0.100	2.200	AK 101
	DRO	ND	0.566	1.500	AK 102
	RRO	ND	0.472	1.100	AK 103
	Benzene	0.00458	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B
MW17-0713	GRO	ND	0.100	2.200	AK 101
Duplicate of MW8-0713	DRO	ND	0.568	1.500	AK 102
	RRO	ND	0.473	1.100	AK 103
RPD = 14 %	Benzene	0.00398	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B
MW9-0713	GRO	ND	0.100	2.200	AK 101
	DRO	ND	0.577	1.500	AK 102
	RRO	ND	0.481	1.100	AK 103
	Benzene	ND	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B

TABLE 2
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
GROUNDWATER ANALYTICAL RESULTS (JULY 2017)

Sample No.	Parameter	Results (mg/L)	LOQ (mg/L)	ADEC Cleanup Criteria (mg/L)[1]	Analytical Method
MW12-0712	GRO	ND	0.100	2.200	AK 101
	DRO	ND	0.556	1.500	AK 102
	RRO	**1.64**	0.463	1.100	AK 103
	Benzene	ND	0.000500	0.0046	SW 8021B
	Ethylbenzene	ND	0.00100	0.015	SW 8021B
	Toluene	ND	0.00100	1.100	SW 8021B
	Total Xylenes	ND	0.00300	0.190	SW 8021B
MW14-0712	**GRO**	**52.7**	5.00	2.200	AK 101
	DRO	**6.92**	0.568	1.500	AK 102
	RRO	ND	0.473	1.100	AK 103
	Benzene	**5.460**	0.0250	0.0046	SW 8021B
	Ethylbenzene	**0.653**	0.0500	0.015	SW 8021B
	Toluene	**11.600**	0.200	1.100	SW 8021B
	Total Xylenes	**13.060**	0.1500	0.190	SW 8021B
MW16-0712					
Duplicate of MW14-0712					
RPD = 1 %	**GRO**	**52.3**	5.00	2.200	AK 101
RPD = 1 %	**DRO**	**6.96**	0.556	1.500	AK 102
	RRO	ND	0.463	1.100	AK 103
RPD = 1 %	**Benzene**	**5.490**	0.0250	0.0046	SW 8021B
RPD = 3 %	**Ethylbenzene**	**0.675**	0.0500	0.015	SW 8021B
RPD = 0 %	**Toluene**	**11.600**	0.200	1.100	SW 8021B
RPD = 2 %	**Total Xylenes**	**13.390**	0.1500	0.190	SW 8021B
FW1-0713	*1,1,2-Trichloroethane*	*ND*	0.000500	0.00041	EPA 524.2
	1,2,3-Trichloropropane	*ND*	0.000500	0.0000075	EPA 524.2
	1,2-Dibromoethane	*ND*	0.000500	0.000075	EPA 524.2
	Benzene	ND	0.000500	0.0046	EPA 524.2
	Ethylbenzene	ND	0.000500	0.015	EPA 524.2
	Toluene	ND	0.000500	1.100	EPA 524.2
	Vinyl chloride	*ND*	0.000400	0.00019	EPA 524.2
	Total Xylenes	ND	0.000500	0.190	EPA 524.2
	All Other VOCs	ND	varies	varies	EPA 524.2

[1] Water cleanup criteria are obtained from ADEC 18 AAC 75.345, Table C, Groundwater Cleanup Levels for Human Health (November 7, 2017).

AAC = Alaska Administrative Code; AK = Alaska Method; ADEC = Alaska Department of Environmental Conservation; EPA = Environmental Protection Agency; GRO = gasoline range organics; DRO = diesel range organics; RRO = Residual Range Organics; ND = not detectable; LOQ = limit of quantitation; µg/L = micrograms per liter; RPD = relative percent difference

Italics = The LOQ exceeds The applicable ADEC cleanup criterion.

Bold = The concentration exceeds the applicable ADEC cleanup criterion.

TABLE 3
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
HISTORICAL GROUNDWATER SAMPLING ANALYTICAL RESULTS

Well No.	Date Collected: / Parameter	Jan-95 (mg/L)	Jul-95 (mg/L)	Mar-96 (mg/L)	Dec-96 (mg/L)	Nov-99 (mg/L)	Aug-00 (mg/L)	Nov-00 (mg/L)	Jun-02 (mg/L)	Nov-02 (mg/L)	Jul-03 (mg/L)	Jan-04 (mg/L)	Jun-05 (mg/L)	Aug-05 (mg/L)	Mar-06 (mg/L)	Sept-06 (mg/L)	Oct-07 (mg/L)	Sep-12 (mg/L)	Jun-13 (mg/L)	Apr-14 (mg/L)	Jul-15 (mg/L)	Jun-16 (mg/L)	Jul-17 (mg/L)	Analytical Method	ADEC Method Two Groundwater Cleanup Level (mg/L)[1]
MW-01	GRO	**97.6**	NS	NS	**66.9**	NS	**14.5**	NS	**48**	NS	NS	NS	**30.600**	**53.300**	**54.400**	**28.100**	**50.400**	**32.4**	**40.6**	**29.80**	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	**2.45**	NS	NS	NS	**17**	NS	NS	NS	**21.3**	**37.200**	**19.3**	**20.1**	**28.2**	**22**	**29.1**	**8.38**	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**<5.05**	**2.08**	**1.87**	**1.46**	**1.45**	**1.32**	**0.78**	NS	NS	NS	AK103	1.1
	Benzene	**14.6**	NS	NS	**11**	NS	**1.49**	NS	**4.7**	NS	NS	NS	**3.140**	**5.540**	**7.010**	**0.109**	**3.210**	**2.42**	**2.720**	**2.42**	NS	NS	NS	SW8021b	0.0046
	Toluene	**27.6**	NS	NS	**16.8**	NS	**1.68**	NS	**8.4**	NS	NS	NS	**6.770**	**12.300**	**17.100**	**8.940**	**8.930**	**4.53**	**6.640**	**5.31**	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	**2.79**	NS	NS	**2.23**	NS	**0.41**	NS	**1.1**	NS	NS	NS	**0.945**	**1.490**	**2.420**	**1.080**	**1.100**	**1.16**	**1.110**	**1.08**	NS	NS	NS	SW8021b	0.015
	Total Xylenes	**14.8**	NS	NS	**11.63**	NS	**2.15**	NS	**6.1**	NS	NS	NS	**5.540**	**9.380**	**14.120**	**7.400**	**7.800**	**7.91**	**8.000**	**6.15**	NS	NS	NS	SW8021b	0.19
MW-02	GRO	**156**	**108**	NS	**152**	NS	**58.5**	**162**	**89.5**	NS	**88.400**	NS	**111.000**	**107.000**	**121.000**	**41.000**	**37.20**	**74.1**	**94.7**	**64.40**	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	**9.81**	NS	NS	NS	**16.3**	NS	**58**	NS	**56.0**	**74.300**	**70.2**	**70.1**	**27.30**	**58.6**	**105**	**70.10**	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**<5.00**	**5.63**	**9.89**	**1.53**	**5.5**	**5.96**	**6.14**	NS	NS	NS	AK103	1.1
	Benzene	**32.8**	**20.7**	NS	**25.8**	NS	**5.23**	**28.5**	**10.4**	NS	**10.2**	NS	**19.800**	**19.700**	**19.000**	**12.300**	**2.49**	**7.36**	**11.300**	**8.46**	NS	NS	NS	SW8021b	0.0046
	Toluene	**44**	NS	NS	**36.7**	NS	**7.48**	**28.7**	**10.6**	NS	**10.2**	NS	**26.500**	**23.100**	**31.800**	**20.200**	**6.68**	**19.8**	**22.600**	**17.50**	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	**3.4**	NS	NS	**4.4**	NS	**1.4**	**2.5**	**1.3**	NS	**10.2**	NS	**2.190**	**2.230**	**2.810**	**1.670**	**0.82**	**1.56**	**1.760**	**1.34**	NS	NS	NS	SW8021b	0.015
	Total Xylenes	**17.5**	NS	NS	**21.9**	NS	**9.47**	**13.45**	**7.5**	NS	**10.2**	NS	**10.550**	**10.860**	**14.190**	**9.500**	**4.950**	**10.23**	**10.120**	**8.97**	NS	NS	NS	SW8021b	0.19
	Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.042**	NS	NS	NS	NS	NS	NS	8270C	0.0017
	2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.013	NS	NS	NS	NS	NS	NS	8270C	0.036
	1-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0062	NS	NS	NS	NS	NS	NS	8270C	0.011
	Acenaphthylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000032	NS	NS	NS	NS	NS	NS	8270C	0.260
	Acenaphthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000026	NS	NS	NS	NS	NS	NS	8270C	0.53
	Fluorene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000069	NS	NS	NS	NS	NS	NS	8270C	0.29
	Phenanthrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000051	NS	NS	NS	NS	NS	NS	8270C	0.17
	Anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0000097	NS	NS	NS	NS	NS	NS	8270C	0.043
	Fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000016	NS	NS	NS	NS	NS	NS	8270C	0.26
	Pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000020	NS	NS	NS	NS	NS	NS	8270C	0.120
	Benz[a]anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000019	NS	NS	NS	NS	NS	NS	8270C	0.00012
	All other PAHs	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	8270C	varies
MW-03	GRO	Nd	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.090	NS	NS	<0.0500	ND	NS	NS	NS	0.551	ND	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	0.41	NS	NS	NS	NS	0.333	NS	NS	<0.407	ND	NS	NS	NS	0.612	ND	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.764	NS	NS	<0.407	0.556	NS	NS	NS	<0.481	ND	AK103	1.1
	Benzene	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	NS	NS	**0.124**	ND	SW8021b	0.0046
	Toluene	ND	NS	NS	NS	NS	ND	NS	0.0008	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	NS	0.154	ND	SW8021b	1.1
	Ethylbenzene	ND	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	NS	0.00239	ND	SW8021b	0.015
	Total Xylenes	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.002	NS	NS	**<1.50**	ND	NS	NS	NS	0.0500	ND	SW8021b	0.19
MW-05	GRO	0.244	0.287	0.462	0.303	0.7	ND	0.148	NS	NS	NS	NS	0.938	**2.200**	NS	0.456	0.121	ND	NS	0.207	ND	0.311	ND	AK101	2.2
	DRO	NS	NS	NS	0.39	NS	NS	NS	NS	NS	NS	NS	0.603	1.24	NS	0.700	<0.407	ND	NS	0.757	ND	,0.577	ND	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.79**	NS	0.865	<0.407	0.974	NS	0.995	ND	0.524	ND	AK103	1.1
	Benzene	**0.13**	**0.18**	**0.243**	**0.157**	**0.272**	**0.011**	**0.079**	NS	NS	NS	NS	**0.467**	**1.170**	NS	**0.180**	**0.0119**	0.00113	NS	**0.0839**	**0.0126**	**0.122**	0.00146	SW8021b	0.0046
	Toluene	ND	NS	ND	ND	ND	ND	ND	NS	NS	NS	NS	ND	<0.020	NS	0.00450	0.000861	ND	NS	ND	0.00207	0.00123	ND	SW8021b	1.1
	Ethylbenzene	ND	NS	ND	ND	ND	ND	ND	NS	NS	NS	NS	0.00236	**<0.020**	NS	ND	<0.0005	ND	NS	ND	ND	<0.00100	ND	SW8021b	0.015
	Total Xylenes	ND	NS	ND	ND	ND	ND	ND	NS	NS	NS	NS	0.00586	<0.020	NS	0.02128	0.00204	ND	NS	0.0121	0.00416	0.00972	ND	SW8021b	0.19

GRO = Gasoline Range Organics DRO = Diesel Range Organics NS = Not Sampled ND = Not Detected
mg/L = miligrams per Liter VOCs = Volatile Organic Compounds
BOLD = Value exceeds applicable ADEC cleanup criterion.

[1] Groundwater cleanup criteria are based on 18AAC 75.345 Table C (November 7, 2017).

TABLE 3
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
HISTORICAL GROUNDWATER SAMPLING ANALYTICAL RESULTS

Well No.	Date Collected: / Parameter	Jan-95 (mg/L)	Jul-95 (mg/L)	Mar-96 (mg/L)	Dec-96 (mg/L)	Nov-99 (mg/L)	Aug-00 (mg/L)	Nov-00 (mg/L)	Jun-02 (mg/L)	Nov-02 (mg/L)	Jul-03 (mg/L)	Jan-04 (mg/L)	Jun-05 (mg/L)	Aug-05 (mg/L)	Mar-06 (mg/L)	Sept-06 (mg/L)	Oct-07 (mg/L)	Sep-12 (mg/L)	Jun-13 (mg/L)	Apr-14 (mg/L)	Jul-15 (mg/L)	Jul-16 (mg/L)	Jul-17 (mg/L)	Analytical Method	ADEC Method Two Groundwater Cleanup Level (mg/L)[1]
B6VE	GRO	**20.7**	**23**	**13.5**	**18.6**	**24**	**42.1**	**25.9**	**15**	NS	NS	NS	**50.700**	**57.900**	**27.400**	**40.600**	**54.600**	**8.290**	**25.8**	**22.7**	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	**2.52**	NS	NS	NS	**1.6**	NS	NS	NS	**20.1**	**20.100**	**90.0**	**10.80**	**15.6**	**4.690**	**8.80**	**5.57**	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**9.630**	**1.93**	**2.01**	1.02	**1.430**	**1.21**	**1.28**	NS	NS	NS	AK103	1.1
	Benzene	**1.53**	**3.11**	**1.34**	**2.29**	**1.75**	**3.82**	**2.5**	**1.69**	NS	NS	NS	**4.540**	**7.660**	**2.020**	**0.0939**	**3.880**	**1.060**	**2.750**	**1.730**	NS	NS	NS	SW8021b	0.0046
	Toluene	**3.74**	NS	**2.21**	**4**	**3.12**	**4.48**	**3.16**	**1.9**	NS	NS	NS	**9.980**	**12.500**	**5.660**	**9.450**	**9.190**	**1.430**	**4.310**	**3.870**	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	**0.231**	NS	NS	NS	**1.440**	**1.090**	**1.070**	**0.555**	**1.100**	**0.122**	**0.721**	**0.734**	NS	NS	NS	SW8021b	0.015
	Total Xylenes	**3.51**	NS	**2.2**	**2.3**	**2.9**	**3.36**	**2.9**	**1.5**	NS	NS	NS	**7.220**	**8.810**	**5.240**	**6.730**	**5.950**	**1.139**	**3.660**	**3.473**	NS	NS	NS	SW8021b	0.19
MW-08	GRO	**3.45**	**3.92**	**9.89**	NS	**1.8**	1.2	**5.3**	**9.5**	NS	0.8	NS	**2.070**	**4.220**	NS	0.577	**4.280**	0.79	NS	NS	ND	0.699	ND	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	**14.4**	**2.06**	ND	NS	0.558	<0.306	NS	ND	<0.394	ND	NS	NS	ND	<0.566	ND	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.510	NS	ND	<0.394	0.506	NS	NS	ND	<0.472	ND	AK103	1.1
	Benzene	**1.51**	**2.49**	**4.91**	NS	**0.69**	**0.5**	**2.31**	**3.6**	NS	**0.33**	NS	**1.090**	**2.180**	NS	**0.165**	**1.450**	**0.355**	NS	NS	**0.00695**	**0.277 J**	0.00458	SW8021b	0.0046
	Toluene	0.0027	NS	NS	NS	NS	NS	NS	0.016	NS	0.0008	NS	0.00285	<0.020	NS	0.0452	<0.025	ND	NS	NS	ND	0.00132 J	ND	SW8021b	1.1
	Ethylbenzene	0.004	NS	**0.1**	ND	ND	ND	ND	**0.021**	NS	ND	NS	ND	**<0.020**	NS	0.00415	**<0.025**	ND	NS	NS	ND	<0.00100	ND	SW8021b	0.015
	Total Xylenes	0.007	NS	**0.23**	ND	ND	ND	ND	**0.34**	NS	ND	NS	0.0147	0.0256	NS	0.0539	<0.075	ND	NS	NS	ND	<0.00300	ND	SW8021b	0.19
MW-09	GRO	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.090	NS	NS	<0.050	ND	NS	NS	ND	<0.100	ND	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	0.44	NS	NS	NS	NS	0.798	NS	NS	<0.407	ND	NS	NS	ND	<0.570	ND	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.23**	NS	NS	<0.407	ND	NS	NS	0.651	0.577	ND	AK103	1.1
	Benzene	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	NS	ND	<0.000500	ND	SW8021b	0.0046
	Toluene	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	ND	<0.00100	ND	SW8021b	1.1
	Ethylbenzene	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	ND	<0.00100	ND	SW8021b	0.015
	Total Xylenes	ND	NS	NS	NS	NS	ND	NS	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0015	ND	NS	NS	ND	<0.00300	ND	SW8021b	0.19
MW-10	GRO	NS	NS	NS	ND	NS	ND	ND	ND	NS	NS	NS	NS	<0.090	NS	NS	<0.050	ND	NS	NS	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	0.39	NS	NS	NS	0.32	NS	NS	NS	NS	<0.303	NS	NS	<0.391	ND	NS	NS	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.505	NS	NS	<0.391	ND	NS	NS	NS	NS	NS	AK103	1.1
	Benzene	NS	NS	NS	ND	NS	ND	ND	ND	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	NS	NS	NS	NS	SW8021b	0.0046
	Toluene	NS	NS	NS	ND	NS	ND	ND	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	ND	NS	ND	ND	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	NS	NS	NS	SW8021b	0.015
	Total Xylenes	NS	NS	NS	ND	NS	ND	ND	ND	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	NS	NS	NS	NS	SW8021b	0.19
MW-11	GRO	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	< 0.090	0.233	ND	<0.050	ND	NS	ND	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	**3.82**	NS	**1.72**	ND	1.16	**2.01**	0.650	0.481	0.759	ND	NS	ND	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**3.45**	0.945	0.535	**1.79**	0.601	NS	0.723	NS	NS	NS	AK103	1.1
	Benzene	NS	NS	NS	NS	NS	NS	NS	ND	NS	0.004	ND	0.000899	**0.00586**	**0.02280**	**0.0142**	**0.00576**	ND	NS	ND	NS	NS	NS	SW8021b	0.0046
	Toluene	NS	NS	NS	NS	NS	NS	NS	0.0027	NS	ND	ND	ND	<0.002	0.0601	ND	<0.0005	ND	NS	ND	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	<0.002	0.00659	ND	<0.0005	ND	NS	ND	NS	NS	NS	SW8021b	0.015
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	<0.002	0.03412	ND	<0.0015	ND	NS	ND	NS	NS	NS	SW8021b	0.19
MW-12	GRO	NS	NS	NS	NS	NS	NS	NS	ND	NS	0.53	ND	0.635	1.170	0.262	0.497	0.035	NS	NS	ND	ND	<0.100	ND	AK101	2.2
	DRO	NS	NS	NS	0.44	NS	NS	NS	0.44	NS	**1.53**	ND	0.498	0.756	0.415	0.588	0.714	NS	NS	0.611	ND	1.31	ND	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.730**	**1.77**	0.536	1.060	NS	NS	**1.22**	**1.18**	**3.27**	**1.64**	AK103	1.1
	Benzene	NS	NS	NS	NS	NS	NS	NS	ND	NS	**0.237**	0.00218	**0.247**	**0.398**	**0.101**	**0.205**	**0.142**	NS	NS	0.0011	0.000580	0.000660	ND	SW8021b	0.0046
	Toluene	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	<0.002	0.0322	0.0176	<0.0005	NS	NS	ND	ND	<0.00100	ND	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	<0.002	0.00407	0.00260	<0.0005	NS	NS	ND	ND	<0.00100	ND	SW8021b	0.015
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	ND	NS	ND	ND	ND	<0.002	0.02015	0.01967	<0.0015	NS	NS	ND	ND	<0.00300	ND	SW8021b	0.19

GRO = Gasoline Range Organics DRO = Diesel Range Organics NS = Not Sampled ND = Not Detected

mg/L = miligrams per Liter VOCs = Volatile Organic Compounds

BOLD = Value exceeds applicable ADEC cleanup criterion.

[1] Groundwater cleanup criteria are based on 18AAC 75.345 Table C (November 7, 2017).

TABLE 3
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
HISTORICAL GROUNDWATER SAMPLING ANALYTICAL RESULTS

Well No.	Date Collected: / Parameter	Jan-95 (mg/L)	Jul-95 (mg/L)	Mar-96 (mg/L)	Dec-96 (mg/L)	Nov-99 (mg/L)	Aug-00 (mg/L)	Nov-00 (mg/L)	Jun-02 (mg/L)	Nov-02 (mg/L)	Jul-03 (mg/L)	Jan-04 (mg/L)	Jun-05 (mg/L)	Aug-05 (mg/L)	Mar-06 (mg/L)	Sept-06 (mg/L)	Oct-07 (mg/L)	Sep-12 (mg/L)	Jun-13 (mg/L)	Apr-14 (mg/L)	Jul-15 (mg/L)	Jul-16 (mg/L)	Jul-17 (mg/L)	Analytical Method	ADEC Method Two Groundwater Cleanup Level (mg/L)[1]
MW-13	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**217**	**236**	**159**	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**20.1**	**31.1**	**22.3**	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.75**	**1.90**	**2.72**	NS	NS	NS	AK103	1.1
	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**19.6**	**18.500**	**10.600**	NS	NS	NS	SW8021b	0.0046
	Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**63.9**	**58.300**	**42.200**	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5.29**	**4.900**	**5.600**	NS	NS	NS	SW8021b	0.015
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**26.7**	**26.900**	**28.510**	NS	NS	NS	SW8021b	0.19
	1,2,4-Trimethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.140**	NS	NS	NS	NS	SW8260B	0.015
	n-Propylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.399	NS	NS	NS	NS	SW8260B	0.660
MW-14	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**118**	**140**	**113**	**94.8**	**125**	**52.700**	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**58.6**	**56.4**	**52.3**	**53.6**	**37.1**	**6.960**	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**8.88**	**9.52**	**10.9**	**5.72**	**2.75**	ND	AK103	1.1
	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**19.6**	**17.300**	**19.100**	**13.500**	**17.100**	**5.490**	SW8021b	0.0046
	Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**26.1**	**25.800**	**26.200**	**19.100**	**31.500**	**11.600**	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.51**	**2.240**	**2.070**	**1.710**	**1.670**	**0.675**	SW8021b	0.015
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**14.78**	**15.320**	**15.240**	**13.470**	**19.950**	**13.390**	SW8021b	0.19
MW-15	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**86.100**	NS	NS	**56.500**	1.33	**2.25**	**7.98**	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**14.6**	NS	NS	**4.96**	1.03	**2.01**	**1.83**	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.19**	NS	NS	0.439	1.010	**1.19**	**2.25**	NS	NS	NS	AK103	1.1
	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**16.900**	NS	NS	**6.690**	**0.0467**	**0.517**	**1.790**	NS	NS	NS	SW8021b	0.0046
	Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**19.800**	NS	NS	**8.630**	0.0514	0.213	0.492	NS	NS	NS	SW8021b	1.1
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.030**	NS	NS	**1.270**	**0.0229**	**0.0567**	**0.1130**	NS	NS	NS	SW8021b	0.015
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10.010**	NS	NS	**6.810**	0.1119	**0.2171**	**0.3670**	NS	NS	NS	SW8021b	0.19
Tap Well (facility well)	GRO	NS	NS	ND	NS	ND	ND	NS	ND	NS	NS	NS	ND	NS	NS	0.305	NS	NS	NS	NS	NS	NS	NS	AK101	2.2
	DRO	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	ND	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	AK102	1.5
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	AK103	1.1
	Benzene	NS	NS	ND	NS	ND	ND	NS	ND	NS	NS	NS	ND	NS	NS	**0.0108**	NS	ND	NS	NS	ND	<0.000500	ND	EPA 524.2	0.0046
	Toluene	NS	NS	ND	NS	ND	ND	NS	ND	NS	NS	NS	ND	NS	NS	0.0495	NS	ND	NS	NS	ND	<0.000500	ND	EPA 524.2	1.1
	Ethylbenzene	NS	NS	ND	NS	ND	ND	NS	ND	NS	NS	NS	ND	NS	NS	0.00947	NS	ND	NS	NS	ND	<0.000500	ND	EPA 524.2	0.015
	Total Xylenes	NS	NS	ND	NS	ND	ND	NS	ND	NS	NS	NS	ND	NS	NS	0.0613	NS	ND	NS	NS	ND	<0.000500	ND	EPA 524.2	0.19
	All Other VOCs	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	ND	NS	NS	ND	ND	ND	EPA 524.2	varies

GRO = Gasoline Range Organics DRO = Diesel Range Organics RRO = Residual Range Organics NS = Not Sampled ND = Not Detected
mg/L = miligrams per Liter VOCs = Volatile Organic Compounds
BOLD = Value exceeds applicable ADEC cleanup criterion.

[1] Groundwater cleanup criteria are based on 18AAC 75.345 Table C (November 7, 2017).

APPENDIX A
FIELD NOTES

7/12/~~17~~

58°F, clear

7:15 BGES (ET & WS) onsite. Begin opening wells

MW#	DTW	TDW	Time
MW1	8.12	21.67	7:59
MW2	5.87	12.84	~~7~~:50
MW3	5.30	8.69	10:48
MW5	7.76	12.78	8:20
MW8	6.05	13.74	8:15
MW9	5.35	13.19	8:08
MW10	7.31	14.55	8:03
MW11	5.26	6.29	9:26
MW12	4.89	8.12	9:20
MW13	7.31	11.18	7:55
MW14	7.44	12.81	7:38
MW15	5.86	10.24	7:44
B6/VE	7.64	12.86	7:32

- MW1 bent bolt, prized e58. Southern bolt
- MW14 - 2/3 bolt holes w/o threads
- MW15 - 2/3 bolt holes w/o threads and pvc slightly heaved

MW2 - 2/3 bolt holes w/o threads, & bolt hole eye broken
MW9 - partially full of water, slight sheen
MW8 - missing 1 bolt
MW5 - PVC slightly heaved, pressure on top cap

0745 - Northern Dame onsite, safety meeting
0900 - Northern Dame Traffic Set up
0930 - Begin Purging MW12/5, and sampling
950 - ~~(BGES-ET)~~ WS offsite
1130 - N. Dame Removing Cones
1200 - N. Dame offsite
1300 - BGES (ET) offsite
1342 - BGES (ET) onsite, sampling MW14
1615 - BGES (ET) offsite

7/13/17 58°F, clear

818 - BGES (ET) onsite. Begin purging MWs and sampling

942 - BGES (WS) onsite.

948 - ADEC (Josh, Grant, Chealsea, Sammy) onsite. MW9 purging slow.

1125 - ADEC offsite
- BGES (WS) offsite

1205 - BGES (ET) offsite

1250 - BGES (ET) onsite

1310 - Begin purging wells and collecting samples. MW8 has waste oil odor. Recommend respirator for future sampling events.
1500 - Facility well located in NW portion of building.
1535 - Purge MW9 for sample MW9B
- 2nd jar (DRO) collected at 16:10
16:35 - BGES (ET) offsite.

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW3
Date of Sampling Event: 7/13/17

Weather Conditions: 68°F, Clear
Time of Depth to Water Measurement: 10:48
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 8.69
Depth to Water (feet below TOC): 5.30
Water Column (feet): 3.39

Type of Sampling Equipment: MP50 controller, 2" bladder pump, YSI Flow through cell, Poly bonded tubing

Volume of well (gals): 0.55

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 10:55
Time of Sampling: 11:18
Volume purged: 0.8gal

PURGE A MINIMUM OF THREE WELL VOLUMES

Temperature (°C)	14.6	Temperature (°C)	14.7
Conductivity	1080	Conductivity	1014
pH	6.55	pH	6.48
ORP	37.6	ORP	45.0
Volume Purged	0.2 gal	Volume Purged	0.8gal, 3.0L
Depth To Water		Depth To Water	
Time of Measurement	10:58	Time of Measurement	11:14
Temperature (°C)	14.1	Temperature (°C)	
Conductivity	1023	Conductivity	
pH	6.52	pH	
ORP	40.8	ORP	
Volume Purged	0.4 gal, 1.8L	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	11:04	Time of Measurement	
Temperature (°C)	14.3	Temperature (°C)	
Conductivity	1005	Conductivity	
pH	6.48	pH	
ORP	43.1	ORP	
Volume Purged	0.63gal, 2.4L	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	11:07	Time of Measurement	
Temperature (°C)	14.4	Temperature (°C)	
Conductivity	1004	Conductivity	
pH	6.47	pH	
ORP	45.2	ORP	
Volume Purged	2.6L → 0.8gal	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	11:10	Time of Measurement	

Depth of Bladder intake: 6" below top of water column

Purge Rate: ~120-260mL/min

Sample Rate: ~60mL/min

Sample ID: MW3-0713

Additional Notes: Purge rate increased 11:08

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG BGES, INC.

Well Number: MW5
Date of Sampling Event: 7/12/17

Weather Conditions: 63°F, Clear
Time of Depth to Water Measurement: 8:20
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 12.78
Depth to Water (feet below TOC): 7.76
Water Column (feet): 5.02

Type of Sampling Equipment:
MP50 controller, 2" Bladder Pump
YSI Flow Through cell
Poly bonded tubing

Volume of well (gals): 0.82

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 11:17
Time of Sampling: 12:32
Volume purged: 0.8gal

PURGE A MINIMUM OF THREE WELL VOLUMES

Temperature (°C)	12.5°C	Temperature (°C)	12.9°C
Conductivity	2180	Conductivity	2177
pH	6.39	pH	6.43
ORP	-27.7	ORP	-37.5
Volume Purged	0.1 gal	Volume Purged	0.6gal, 2.2L
Depth To Water	—	Depth To Water	—
Time of Measurement	11:18	Time of Measurement	11:38
Temperature (°C)	12.0°C	Temperature (°C)	12.7°C
Conductivity	2128	Conductivity	2247
pH	6.38	pH	6.45
ORP	-26.4	ORP	-41.5 (2.4L
Volume Purged	0.3 gal	Volume Purged	0.6gal)
Depth To Water	—	Depth To Water	—
Time of Measurement	11:23	Time of Measurement	11:42
Temperature (°C)	11.8°C	Temperature (°C)	13.3°C
Conductivity	2060	Conductivity	2302
pH	6.38	pH	6.43
ORP	-26.9	ORP	-44.2
Volume Purged	0.4 gal	Volume Purged	0.7gal → 2.8L
Depth To Water	—	Depth To Water	—
Time of Measurement	11:28	Time of Measurement	11:46
Temperature (°C)	13.0°C	Temperature (°C)	13.0°C
Conductivity	2085	Conductivity	2287
pH	6.40	pH	6.48
ORP	-30.8	ORP	-44.5 → 3.0L
Volume Purged	0.5gal, 2.0L	Volume Purged	0.8gal
Depth To Water	—	Depth To Water	—
Time of Measurement	11:34	Time of Measurement	~~11:50~~ 11:51

Depth of Bladder intake: 6" below top of water column.

Purge Rate: ~120 - 190 mL/min

Sample Rate: ~~MW5 0712 ET~~, ~50mL/min

Sample ID: MW5-0712

Additional Notes: Decreased Purge rate at 11:25, Tan color initially, clear color at end of purging

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW8
Date of Sampling Event: 7/13/17

Weather Conditions: 71°F, clear
Time of Depth to Water Measurement: 8:15
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 13.74
Depth to Water (feet below TOC): 6.05
Water Column (feet): 7.69

Type of Sampling Equipment: MP50 controller, 2" bladder pump, YSI flow through cell, Poly bonded tubing

Volume of well (gals): 1.26

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 13:10
Time of Sampling: 14:02
Volume purged ~~4.0~~ 1 gal **PURGE A MINIMUM OF THREE WELL VOLUMES**

Temperature (°C)	13.6°C	Temperature (°C)	12.3	**Depth of Bladder intake:** ~8" below top of water column.
Conductivity	998	Conductivity	1344	
pH	6.42	pH	6.47	
ORP	17.3	ORP	-54.4	
Volume Purged	0.2 gal	Volume Purged	0.7 gal, 2.5L	
Depth To Water		Depth To Water		
Time of Measurement	13:20	Time of Measurement	13:35	
Temperature (°C)	13.2	Temperature (°C)	12.6	**Purge Rate:** ~69mL/min
Conductivity	1018	Conductivity	1380	
pH	6.43	pH	6.49	
ORP	-8.8	ORP	-60.3	
Volume Purged	0.3 gal, 1.3L	Volume Purged	0.7 gal, 2.8L	
Depth To Water		Depth To Water		
Time of Measurement	13:24	Time of Measurement	13:38	
Temperature (°C)	13.0	Temperature (°C)	12.5	**Sample Rate:** ~110 mL/min
Conductivity	1126	Conductivity	1388	
pH	6.45	pH	6.51	
ORP	-31.1	ORP	-67.4	**Sample ID:**
Volume Purged	0.5 gal, 1.8L	Volume Purged	0.9 gal, 3.3L	MW8-0713
Depth To Water		Depth To Water		
Time of Measurement	13:27	Time of Measurement	13:42	MW17-0713 (Dup)
Temperature (°C)	12.5	Temperature (°C)	12.4	
Conductivity	1260	Conductivity	1385	
pH	6.46	pH	6.52	
ORP	-45.5	ORP	-66.3	
Volume Purged	0.5 gal, 2L	Volume Purged	1 gal, 3.7L	
Depth To Water		Depth To Water		
Time of Measurement	13:31	Time of Measurement	13:45	

Additional Notes: Slight tan color initially purging. Clear color before sampling

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW9
Date of Sampling Event: 7/13/17

Weather Conditions: 58°F, Clear
Time of Depth to Water Measurement: 8:08
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 13.19
Depth to Water (feet below TOC): 5.35
Water Column (feet): 7.84

Type of Sampling Equipment:
MP50 Controller, 2" bladder pump
YSI Flow through cell
Poly bonded tubing

Volume of well (gals): 1.28

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 8:36
Time of Sampling: 9:35
Volume purged: 0.5 gal

PURGE A MINIMUM OF THREE WELL VOLUMES

Temperature (°C)	15.9	Temperature (°C)	12.7
Conductivity	1248	Conductivity	2037
pH	6.26	pH	6.24
ORP	44.6	ORP	52.6
Volume Purged	0.1 gal	Volume Purged	0.5 gal
Depth To Water		Depth To Water	
Time of Measurement	8:40	Time of Measurement	8:57
Temperature (°C)	12.3	Temperature (°C)	
Conductivity	1993	Conductivity	
pH	6.20	pH	
ORP	51.6	ORP	
Volume Purged	0.2 gal	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	8:45	Time of Measurement	
Temperature (°C)	12.6	Temperature (°C)	
Conductivity	2005	Conductivity	
pH	6.20	pH	
ORP	52.1	ORP	
Volume Purged	0.3 gal	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	8:50	Time of Measurement	
Temperature (°C)	12.1	Temperature (°C)	
Conductivity	2031	Conductivity	
pH	6.23	pH	
ORP	52.2	ORP	
Volume Purged	0.4 gal	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	8:54	Time of Measurement	

Depth of Bladder intake:
~10-12 inches below top of water column.

Purge Rate:
~90-120 mL/min

Sample Rate:
~50mL/min

Sample ID:
MW9-0713

Additional Notes:
Water is clear initially. Pump submerged to max drawdown. Standing water in well case.

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW12
Date of Sampling Event: 7/12/17

Weather Conditions: 59°F, Clear
Time of Depth to Water Measurement: 09:20
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 8.12
Depth to Water (feet below TOC): 4.89
Water Column (feet): 3.23

Type of Sampling Equipment:
MP50 controller, 2" bladder pump
YSI Flow through cell
Poly bonded tubing

Volume of well (gals): 0.53

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 9:30
Time of Sampling: 10:27
Volume purged: 0.7 gal

PURGE A MINIMUM OF THREE WELL VOLUMES

Temperature (°C)	13.2°C	Temperature (°C)	13.4
Conductivity	105.4	Conductivity	113.3
pH	5.91	pH	6.32
ORP	0.2	ORP	-138.8
Volume Purged	0.1 gal	Volume Purged	0.6 gal
Depth To Water	4.89	Depth To Water	
Time of Measurement	~~09:20~~ 9:36	Time of Measurement	10:04
Temperature (°C)	16.1°C	Temperature (°C)	13.6
Conductivity	108.6	Conductivity	113.8
pH	6.08	pH	6.30
ORP	-88.7	ORP	-140.0
Volume Purged	0.2 gal	Volume Purged	0.6 gal
Depth To Water		Depth To Water	
Time of Measurement	9:40	Time of Measurement	10:07
Temperature (°C)	17.6	Temperature (°C)	13.4
Conductivity	114.6	Conductivity	114.0
pH	6.35	pH	6.28
ORP	-119.3	ORP	-140.3
Volume Purged	0.4 gal	Volume Purged	0.7
Depth To Water		Depth To Water	
Time of Measurement	9:52	Time of Measurement	10:10
Temperature (°C)	13.8	Temperature (°C)	
Conductivity	114.5	Conductivity	
pH	6.38	pH	
ORP	-131.8	ORP	
Volume Purged		Volume Purged	
Depth To Water	0.5 gal	Depth To Water	
Time of Measurement	9:57	Time of Measurement	

Depth of Bladder intake: ~8" below top of water column

Purge Rate: ~60mL/min - 89 mL/min

Sample Rate: ~50mL/min

Sample ID: MW12-0712

Additional Notes:
Increased purge rate at 09:45. Dark Brown Color Initially, Medium Brown by end of Sampling

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW14
Date of Sampling Event: 07/12/17

Weather Conditions: 70°F, Clear
Time of Depth to Water Measurement: 7:38
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 12.81
Depth to Water (feet below TOC): 7.44
Water Column (feet): 5.37

Type of Sampling Equipment: MP50 controller, 2" bladder pump YSI flow through cell, poly, banded tubing

Volume of well (gals): 0.88

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 1400
Time of Sampling: 15:30
Volume purged: 2.4 gal **PURGE A MINIMUM OF THREE WELL VOLUMES**

Temperature (°C)	13.6	Temperature (°C)	12.1
Conductivity	158.3	Conductivity	179.8
pH	5.60	pH	5.55
ORP	47.2	ORP	65.1
Volume Purged	0.1 gal	Volume Purged	1.0 gal
Depth To Water		Depth To Water	
Time of Measurement	1405	Time of Measurement	1426
Temperature (°C)	13.4	Temperature (°C)	12.0
Conductivity	147.6	Conductivity	186.4
pH	5.50	pH	5.56
ORP	49.2	ORP	64.9
Volume Purged	0.2 gal	Volume Purged	1.1
Depth To Water		Depth To Water	
Time of Measurement	1410	Time of Measurement	1430
Temperature (°C)	12.7	Temperature (°C)	12.1
Conductivity	127.0	Conductivity	192.1
pH	5.51	pH	5.62
ORP	60.1	ORP	64.2
Volume Purged	0.6 gal	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	1414	Time of Measurement	1433
Temperature (°C)	12.6	Temperature (°C)	11.9
Conductivity	159.0	Conductivity	200.2
pH	5.47	pH	5.66
ORP	64.6	ORP	63.0
Volume Purged	0.8 gal	Volume Purged	1.5
Depth To Water		Depth To Water	
Time of Measurement	1422	Time of Measurement	1447

Depth of Bladder intake: 8" below top of water Column

Purge Rate: ~160 mL/min - 110 mL/min

Sample Rate: ~50 mL/min

Sample ID: MW14-0712
MW16-0712 (Duplicate)

Additional Notes: Water Clear Initially. Purge water looks soapy/bubbly Decreased purge rate at 14:15.

BGES, INC.
ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING LOG

BGES, INC.

Well Number: MW14
Date of Sampling Event: 7/12/17

Weather Conditions: 70°F, Clear
Time of Depth to Water Measurement: 7:38
Date of Depth to Water Measurement: 7/12/17

Total Depth of Well (feet below TOC): 12.81
Depth to Water (feet below TOC): 7.44
Water Column (feet): 5.37

Type of Sampling Equipment: MP50 Controller, 2" bladder pump, YSI Flow Through cell, Poly banded tubing

Volume of well (gals): 0.88

=0.1632 X Water Column (For 2-inch well)
=0.6528 X Water Column (For 4-inch well)
=1.4688 X Water Column (For 6-inch well)

Time Purging Began: 1400
Time of Sampling: 1530
Volume purged: 2.4

PURGE A MINIMUM OF THREE WELL VOLUMES

Temperature (°C)	12.8	Temperature (°C)	12.0
Conductivity	202.5	Conductivity	181.9
pH	5.67	pH	5.77
ORP	61.5	ORP	57.5
Volume Purged	1.4 gal	Volume Purged	2.2
Depth To Water		Depth To Water	
Time of Measurement	1450	Time of Measurement	15:07
Temperature (°C)	11.8	Temperature (°C)	12.2
Conductivity	203.0	Conductivity	187.4
pH	5.67	pH	5.75
ORP	50.5	ORP	57.3
Volume Purged	1.6 gal	Volume Purged	2.3
Depth To Water		Depth To Water	
Time of Measurement	1455	Time of Measurement	15:10
Temperature (°C)	11.6	Temperature (°C)	12.2
Conductivity	200.0	Conductivity	186.4
pH	5.77	pH	5.73
ORP	58.8	ORP	57.5
Volume Purged	1.8	Volume Purged	2.4
Depth To Water		Depth To Water	
Time of Measurement	1500	Time of Measurement	15:13
Temperature (°C)	11.8	Temperature (°C)	
Conductivity	184.0	Conductivity	
pH	5.77	pH	
ORP	58.3	ORP	
Volume Purged	2.0	Volume Purged	
Depth To Water		Depth To Water	
Time of Measurement	15:03	Time of Measurement	

Depth of Bladder intake: ~8" below top of water column.

Purge Rate: ~110-160 mL/min

Sample Rate: ~50mL/min

Sample ID: MW14-0712
MW16-0712 (Duplicate)

Additional Notes:

APPENDIX B
LABORATORY ANALYTICAL DATA

Laboratory Report of Analysis

To: BGES Inc.
1042 E. 6th Ave.,
Anchorage, AK 99501
(907)644-2900

Report Number: **1174480**

Client Project: **Six Robblees**

Dear Jayne Martin,

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

Victoria Pennick
2017.07.25
17:07:46 -08'00'

Victoria Pennick — Date
Project Manager
Victoria.Pennick@sgs.com

Print Date: 07/25/2017 4:34:54PM

Case Narrative

SGS Client: **BGES Inc.**
SGS Project: **1174480**
Project Name/Site: **Six Robblees**
Project Contact: **Jayne Martin**

Refer to sample receipt form for information on sample condition.

LCS for HBN 1764451 [VXX/30937 (1400364) LCS

524.2 - LCS recovery for dichlorodifluoromethane (154%) and bromomethane (157%) does not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

LCSD for HBN 1764451 [VXX/3093 (1400365) LCSD

524.2 - LCSD recovery for dichlorodifluoromethane (148%), chloromethane (139%), and bromomethane (140%) does not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

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

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

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, indenmification 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, 8015C, 8021B, 8082A, 8260C, 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
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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.

SGS North America Inc. 200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
MW12-0712	1174480001	07/12/2017	07/14/2017	Water (Surface, Eff., Ground)
MW5-0712	1174480002	07/12/2017	07/14/2017	Water (Surface, Eff., Ground)
MW14-0712	1174480003	07/12/2017	07/14/2017	Water (Surface, Eff., Ground)
MW16-0712	1174480004	07/12/2017	07/14/2017	Water (Surface, Eff., Ground)
MW9-0713	1174480005	07/13/2017	07/14/2017	Water (Surface, Eff., Ground)
MW3-0713	1174480006	07/13/2017	07/14/2017	Water (Surface, Eff., Ground)
MW8-0713	1174480007	07/13/2017	07/14/2017	Water (Surface, Eff., Ground)
MW17-0713	1174480008	07/13/2017	07/14/2017	Water (Surface, Eff., Ground)
Trip Blank	1174480009	07/12/2017	07/14/2017	Water (Surface, Eff., Ground)
FW1-0713	1174480010	07/13/2017	07/14/2017	Drinking Water

Method	Method Description
AK101	AK101/8021 Combo.
SW8021B	AK101/8021 Combo.
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
EPA 524.2	Volatile Organics by 524.2 (DW)

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Detectable Results Summary

Client Sample ID: **MW12-0712**
Lab Sample ID: 1174480001
Semivolatile Organic Fuels

Parameter	Result	Units
Residual Range Organics	1.64	mg/L

Client Sample ID: **MW5-0712**
Lab Sample ID: 1174480002
Volatile Fuels

Parameter	Result	Units
Benzene	1.46	ug/L

Client Sample ID: **MW14-0712**
Lab Sample ID: 1174480003
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	6.92	mg/L
Benzene	5460	ug/L
Ethylbenzene	653	ug/L
Gasoline Range Organics	52.7	mg/L
o-Xylene	3750	ug/L
P & M -Xylene	9310	ug/L
Toluene	11600	ug/L

Client Sample ID: **MW16-0712**
Lab Sample ID: 1174480004
Semivolatile Organic Fuels
Volatile Fuels

Parameter	Result	Units
Diesel Range Organics	6.96	mg/L
Benzene	5490	ug/L
Ethylbenzene	675	ug/L
Gasoline Range Organics	52.3	mg/L
o-Xylene	3850	ug/L
P & M -Xylene	9540	ug/L
Toluene	11600	ug/L

Client Sample ID: **MW8-0713**
Lab Sample ID: 1174480007
Volatile Fuels

Parameter	Result	Units
Benzene	4.58	ug/L

Client Sample ID: **MW17-0713**
Lab Sample ID: 1174480008
Volatile Fuels

Parameter	Result	Units
Benzene	3.98	ug/L

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW12-0712**

Client Sample ID: **MW12-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480001
Lab Project ID: 1174480

Collection Date: 07/12/17 10:27
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.556	U	0.556	0.167	mg/L	1		07/20/17 21:23
Surrogates								
5a Androstane (surr)	71.1		50-150		%	1		07/20/17 21:23

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 21:23
Container ID: 1174480001-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1.64		0.463	0.139	mg/L	1		07/20/17 21:23
Surrogates								
n-Triacontane-d62 (surr)	70.5		50-150		%	1		07/20/17 21:23

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 21:23
Container ID: 1174480001-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW12-0712**

Client Sample ID: **MW12-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480001
Lab Project ID: 1174480

Collection Date: 07/12/17 10:27
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/18/17 16:01
Surrogates								
4-Bromofluorobenzene (surr)	88.6		50-150		%	1		07/18/17 16:01

Batch Information

Analytical Batch: VFC13752
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/18/17 16:01
Container ID: 1174480001-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 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	0.500	U	0.500	0.150	ug/L	1		07/18/17 16:01
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:01
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:01
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/18/17 16:01
Toluene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:01
Surrogates								
1,4-Difluorobenzene (surr)	94.1		77-115		%	1		07/18/17 16:01

Batch Information

Analytical Batch: VFC13752
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/18/17 16:01
Container ID: 1174480001-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW5-0712**

Client Sample ID: **MW5-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480002
Lab Project ID: 1174480

Collection Date: 07/12/17 12:32
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.551	U	0.551	0.165	mg/L	1		07/20/17 21:33
Surrogates								
5a Androstane (surr)	77		50-150		%	1		07/20/17 21:33

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 21:33
Container ID: 1174480002-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 272 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.460	U	0.460	0.138	mg/L	1		07/20/17 21:33
Surrogates								
n-Triacontane-d62 (surr)	82.7		50-150		%	1		07/20/17 21:33

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 21:33
Container ID: 1174480002-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 272 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW5-0712**

Client Sample ID: **MW5-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480002
Lab Project ID: 1174480

Collection Date: 07/12/17 12:32
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/18/17 16:20
Surrogates								
4-Bromofluorobenzene (surr)	88.5		50-150		%	1		07/18/17 16:20

Batch Information

Analytical Batch: VFC13752
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/18/17 16:20
Container ID: 1174480002-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 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	1.46		0.500	0.150	ug/L	1		07/18/17 16:20
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:20
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:20
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/18/17 16:20
Toluene	1.00	U	1.00	0.310	ug/L	1		07/18/17 16:20
Surrogates								
1,4-Difluorobenzene (surr)	95.3		77-115		%	1		07/18/17 16:20

Batch Information

Analytical Batch: VFC13752
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/18/17 16:20
Container ID: 1174480002-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW14-0712**

Client Sample ID: **MW14-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480003
Lab Project ID: 1174480

Collection Date: 07/12/17 15:20
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	6.92		0.568	0.170	mg/L	1		07/20/17 21:43
Surrogates								
5a Androstane (surr)	67.6		50-150		%	1		07/20/17 21:43

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 21:43
Container ID: 1174480003-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 264 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.473 U		0.473	0.142	mg/L	1		07/20/17 21:43
Surrogates								
n-Triacontane-d62 (surr)	71.7		50-150		%	1		07/20/17 21:43

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 21:43
Container ID: 1174480003-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 264 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW14-0712**

Client Sample ID: **MW14-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480003
Lab Project ID: 1174480

Collection Date: 07/12/17 15:20
Received Date: 07/14/17 11:28
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	52.7		5.00	1.55	mg/L	50		07/19/17 14:32
Surrogates								
4-Bromofluorobenzene (surr)	94.9		50-150		%	50		07/19/17 14:32

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 14:32
Container ID: 1174480003-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	5460		25.0	7.50	ug/L	50		07/19/17 14:32
Ethylbenzene	653		50.0	15.5	ug/L	50		07/19/17 14:32
o-Xylene	3750		50.0	15.5	ug/L	50		07/19/17 14:32
P & M -Xylene	9310		100	31.0	ug/L	50		07/19/17 14:32
Toluene	11600		200	62.0	ug/L	200		07/21/17 03:21
Surrogates								
1,4-Difluorobenzene (surr)	98.1		77-115		%	50		07/19/17 14:32

Batch Information

Analytical Batch: VFC13756
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/21/17 03:21
Container ID: 1174480003-C

Prep Batch: VXX30910
Prep Method: SW5030B
Prep Date/Time: 07/20/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 14:32
Container ID: 1174480003-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW16-0712**

Client Sample ID: **MW16-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480004
Lab Project ID: 1174480

Collection Date: 07/12/17 15:30
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	6.96		0.556	0.167	mg/L	1		07/20/17 21:52
Surrogates								
5a Androstane (surr)	72.4		50-150		%	1		07/20/17 21:52

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 21:52
Container ID: 1174480004-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.463 U		0.463	0.139	mg/L	1		07/20/17 21:52
Surrogates								
n-Triacontane-d62 (surr)	76.8		50-150		%	1		07/20/17 21:52

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 21:52
Container ID: 1174480004-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW16-0712**

Client Sample ID: **MW16-0712**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480004
Lab Project ID: 1174480

Collection Date: 07/12/17 15:30
Received Date: 07/14/17 11:28
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	52.3		5.00	1.55	mg/L	50		07/19/17 14:52
Surrogates								
4-Bromofluorobenzene (surr)	94.2		50-150		%	50		07/19/17 14:52

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 14:52
Container ID: 1174480004-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	5490		25.0	7.50	ug/L	50		07/19/17 14:52
Ethylbenzene	675		50.0	15.5	ug/L	50		07/19/17 14:52
o-Xylene	3850		50.0	15.5	ug/L	50		07/19/17 14:52
P & M -Xylene	9540		100	31.0	ug/L	50		07/19/17 14:52
Toluene	11600		200	62.0	ug/L	200		07/21/17 03:40
Surrogates								
1,4-Difluorobenzene (surr)	99		77-115		%	50		07/19/17 14:52

Batch Information

Analytical Batch: VFC13756
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/21/17 03:40
Container ID: 1174480004-C

Prep Batch: VXX30910
Prep Method: SW5030B
Prep Date/Time: 07/20/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 14:52
Container ID: 1174480004-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW9-0713**

Client Sample ID: **MW9-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480005
Lab Project ID: 1174480

Collection Date: 07/13/17 09:35
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.577	U	0.577	0.173	mg/L	1		07/20/17 22:02
Surrogates								
5a Androstane (surr)	76.1		50-150		%	1		07/20/17 22:02

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 22:02
Container ID: 1174480005-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.481	U	0.481	0.144	mg/L	1		07/20/17 22:02
Surrogates								
n-Triacontane-d62 (surr)	81.7		50-150		%	1		07/20/17 22:02

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 22:02
Container ID: 1174480005-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW9-0713**

Client Sample ID: **MW9-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480005
Lab Project ID: 1174480

Collection Date: 07/13/17 09:35
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/19/17 15:11
Surrogates								
4-Bromofluorobenzene (surr)	83.2		50-150		%	1		07/19/17 15:11

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 15:11
Container ID: 1174480005-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	0.500	U	0.500	0.150	ug/L	1		07/19/17 15:11
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:11
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:11
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/19/17 15:11
Toluene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:11
Surrogates								
1,4-Difluorobenzene (surr)	95.1		77-115		%	1		07/19/17 15:11

Batch Information

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 15:11
Container ID: 1174480005-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW3-0713**

Client Sample ID: **MW3-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480006
Lab Project ID: 1174480

Collection Date: 07/13/17 11:18
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.566	U	0.566	0.170	mg/L	1		07/20/17 22:12
Surrogates								
5a Androstane (surr)	79.1		50-150		%	1		07/20/17 22:12

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 22:12
Container ID: 1174480006-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.472	U	0.472	0.142	mg/L	1		07/20/17 22:12
Surrogates								
n-Triacontane-d62 (surr)	83.6		50-150		%	1		07/20/17 22:12

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 22:12
Container ID: 1174480006-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW3-0713**

Client Sample ID: **MW3-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480006
Lab Project ID: 1174480

Collection Date: 07/13/17 11:18
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/19/17 15:30
Surrogates								
4-Bromofluorobenzene (surr)	86.5		50-150		%	1		07/19/17 15:30

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 15:30
Container ID: 1174480006-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	0.500	U	0.500	0.150	ug/L	1		07/19/17 15:30
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:30
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:30
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/19/17 15:30
Toluene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:30
Surrogates								
1,4-Difluorobenzene (surr)	95.2		77-115		%	1		07/19/17 15:30

Batch Information

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 15:30
Container ID: 1174480006-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW8-0713**

Client Sample ID: **MW8-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480007
Lab Project ID: 1174480

Collection Date: 07/13/17 14:02
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.566 U		0.566	0.170	mg/L	1		07/20/17 22:22
Surrogates								
5a Androstane (surr)	75.8		50-150		%	1		07/20/17 22:22

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 22:22
Container ID: 1174480007-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.472 U		0.472	0.142	mg/L	1		07/20/17 22:22
Surrogates								
n-Triacontane-d62 (surr)	81.9		50-150		%	1		07/20/17 22:22

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 22:22
Container ID: 1174480007-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW8-0713**

Client Sample ID: **MW8-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480007
Lab Project ID: 1174480

Collection Date: 07/13/17 14:02
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/19/17 15:49
Surrogates								
4-Bromofluorobenzene (surr)	89.2		50-150		%	1		07/19/17 15:49

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 15:49
Container ID: 1174480007-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	4.58		0.500	0.150	ug/L	1		07/19/17 15:49
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:49
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:49
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/19/17 15:49
Toluene	1.00	U	1.00	0.310	ug/L	1		07/19/17 15:49
Surrogates								
1,4-Difluorobenzene (surr)	94.2		77-115		%	1		07/19/17 15:49

Batch Information

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 15:49
Container ID: 1174480007-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **MW17-0713**

Client Sample ID: **MW17-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480008
Lab Project ID: 1174480

Collection Date: 07/13/17 14:20
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.568 U		0.568	0.170	mg/L	1		07/20/17 22:31
Surrogates								
5a Androstane (surr)	78.3		50-150		%	1		07/20/17 22:31

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 07/20/17 22:31
Container ID: 1174480008-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 264 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.473 U		0.473	0.142	mg/L	1		07/20/17 22:31
Surrogates								
n-Triacontane-d62 (surr)	86.2		50-150		%	1		07/20/17 22:31

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 07/20/17 22:31
Container ID: 1174480008-D

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 07/17/17 09:37
Prep Initial Wt./Vol.: 264 mL
Prep Extract Vol: 1 mL

Print Date: 07/25/2017 4:35:00PM

Results of **MW17-0713**

Client Sample ID: **MW17-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480008
Lab Project ID: 1174480

Collection Date: 07/13/17 14:20
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/19/17 16:08
Surrogates								
4-Bromofluorobenzene (surr)	90.3		50-150		%	1		07/19/17 16:08

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/19/17 16:08
Container ID: 1174480008-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 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	3.98		0.500	0.150	ug/L	1		07/19/17 16:08
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/19/17 16:08
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/19/17 16:08
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/19/17 16:08
Toluene	1.00	U	1.00	0.310	ug/L	1		07/19/17 16:08
Surrogates								
1,4-Difluorobenzene (surr)	94.8		77-115		%	1		07/19/17 16:08

Batch Information

Analytical Batch: VFC13754
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/19/17 16:08
Container ID: 1174480008-B

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 07/19/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/25/2017 4:35:00PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480009
Lab Project ID: 1174480

Collection Date: 07/12/17 10:27
Received Date: 07/14/17 11:28
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	0.100	U	0.100	0.0310	mg/L	1		07/18/17 13:28
Surrogates								
4-Bromofluorobenzene (surr)	87.9		50-150		%	1		07/18/17 13:28

Batch Information

Analytical Batch: VFC13752
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/18/17 13:28
Container ID: 1174480009-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 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	0.500	U	0.500	0.150	ug/L	1		07/18/17 13:28
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1		07/18/17 13:28
o-Xylene	1.00	U	1.00	0.310	ug/L	1		07/18/17 13:28
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1		07/18/17 13:28
Toluene	1.00	U	1.00	0.310	ug/L	1		07/18/17 13:28
Surrogates								
1,4-Difluorobenzene (surr)	95		77-115		%	1		07/18/17 13:28

Batch Information

Analytical Batch: VFC13752
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/18/17 13:28
Container ID: 1174480009-A

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 07/18/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480009
Lab Project ID: 1174480

Collection Date: 07/12/17 10:27
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,1,1-Trichloroethane	0.500	U	0.500	0.150	ug/L	1	(<200)	07/20/17 20:56
1,1,2,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,1,2-Trichloroethane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
1,1-Dichloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,1-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<7)	07/20/17 20:56
1,1-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,2,3-Trichlorobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,2,3-Trichloropropane	0.500	U	0.500	0.180	ug/L	1		07/20/17 20:56
1,2,4-Trichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<70)	07/20/17 20:56
1,2,4-Trimethylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,2-Dibromo-3-chloropropane	2.00	U	2.00	0.620	ug/L	1		07/20/17 20:56
1,2-Dibromoethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,2-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<600)	07/20/17 20:56
1,2-Dichloroethane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
1,2-Dichloropropane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
1,3,5-Trimethylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,3-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,3-Dichloropropane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
1,4-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<75)	07/20/17 20:56
2,2-Dichloropropane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
2-Chlorotoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
4-Chlorotoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
4-Isopropyltoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Benzene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
Bromobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Bromochloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Bromodichloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Bromoform	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Bromomethane	2.00	U	2.00	0.620	ug/L	1		07/20/17 20:56
Carbon tetrachloride	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
Chlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 20:56
Chloroethane	1.00	U	1.00	0.310	ug/L	1		07/20/17 20:56
Chloroform	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Chloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
cis-1,2-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<70)	07/20/17 20:56
cis-1,3-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480009
Lab Project ID: 1174480

Collection Date: 07/12/17 10:27
Received Date: 07/14/17 11:28
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Dibromochloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Dibromomethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Dichlorodifluoromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Ethylbenzene	0.500	U	0.500	0.150	ug/L	1	(<700)	07/20/17 20:56
Hexachlorobutadiene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Isopropylbenzene (Cumene)	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Methylene chloride	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
Methyl-t-butyl ether	1.00	U	1.00	0.310	ug/L	1		07/20/17 20:56
Naphthalene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
n-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
n-Propylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
o-Xylene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
P & M -Xylene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
sec-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Styrene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 20:56
tert-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Tetrachloroethene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
Toluene	0.500	U	0.500	0.150	ug/L	1	(<1000)	07/20/17 20:56
Total Trihalomethanes	2.00	U	2.00	0.600	ug/L	1	(<80)	07/20/17 20:56
trans-1,2-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 20:56
trans-1,3-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Trichloroethene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 20:56
Trichlorofluoromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 20:56
Vinyl chloride	0.400	U	0.400	0.120	ug/L	1	(<2)	07/20/17 20:56
Xylenes (total)	0.500	U	0.500	0.150	ug/L	1	(<10000)	07/20/17 20:56
Surrogates								
1,2-Dichloroethane-D4 (surr)	107		70-130		%	1		07/20/17 20:56
4-Bromofluorobenzene (surr)	101		70-130		%	1		07/20/17 20:56
Toluene-d8 (surr)	98.9		70-130		%	1		07/20/17 20:56

Batch Information

Analytical Batch: VMS16975
Analytical Method: EPA 524.2
Analyst: NRB
Analytical Date/Time: 07/20/17 20:56
Container ID: 1174480009-D

Prep Batch: VXX30937
Prep Method: SW5030B
Prep Date/Time: 07/20/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/25/2017 4:35:00PM

Results of **FW1-0713**

Client Sample ID: **FW1-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480010
Lab Project ID: 1174480

Collection Date: 07/13/17 15:20
Received Date: 07/14/17 11:28
Matrix: Drinking Water
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,1,1-Trichloroethane	0.500	U	0.500	0.150	ug/L	1	(<200)	07/20/17 21:48
1,1,2,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,1,2-Trichloroethane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
1,1-Dichloroethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,1-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<7)	07/20/17 21:48
1,1-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,2,3-Trichlorobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,2,3-Trichloropropane	0.500	U	0.500	0.180	ug/L	1		07/20/17 21:48
1,2,4-Trichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<70)	07/20/17 21:48
1,2,4-Trimethylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,2-Dibromo-3-chloropropane	2.00	U	2.00	0.620	ug/L	1		07/20/17 21:48
1,2-Dibromoethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,2-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<600)	07/20/17 21:48
1,2-Dichloroethane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
1,2-Dichloropropane	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
1,3,5-Trimethylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,3-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,3-Dichloropropane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
1,4-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<75)	07/20/17 21:48
2,2-Dichloropropane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
2-Chlorotoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
4-Chlorotoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
4-Isopropyltoluene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Benzene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
Bromobenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Bromochloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Bromodichloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Bromoform	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Bromomethane	2.00	U	2.00	0.620	ug/L	1		07/20/17 21:48
Carbon tetrachloride	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
Chlorobenzene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 21:48
Chloroethane	1.00	U	1.00	0.310	ug/L	1		07/20/17 21:48
Chloroform	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Chloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
cis-1,2-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<70)	07/20/17 21:48
cis-1,3-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **FW1-0713**

Client Sample ID: **FW1-0713**
Client Project ID: **Six Robblees**
Lab Sample ID: 1174480010
Lab Project ID: 1174480

Collection Date: 07/13/17 15:20
Received Date: 07/14/17 11:28
Matrix: Drinking Water
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Dibromochloromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Dibromomethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Dichlorodifluoromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Ethylbenzene	0.500	U	0.500	0.150	ug/L	1	(<700)	07/20/17 21:48
Hexachlorobutadiene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Isopropylbenzene (Cumene)	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Methylene chloride	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
Methyl-t-butyl ether	1.00	U	1.00	0.310	ug/L	1		07/20/17 21:48
Naphthalene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
n-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
n-Propylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
o-Xylene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
P & M -Xylene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
sec-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Styrene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 21:48
tert-Butylbenzene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Tetrachloroethene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
Toluene	0.500	U	0.500	0.150	ug/L	1	(<1000)	07/20/17 21:48
Total Trihalomethanes	2.00	U	2.00	0.600	ug/L	1	(<80)	07/20/17 21:48
trans-1,2-Dichloroethene	0.500	U	0.500	0.150	ug/L	1	(<100)	07/20/17 21:48
trans-1,3-Dichloropropene	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Trichloroethene	0.500	U	0.500	0.150	ug/L	1	(<5)	07/20/17 21:48
Trichlorofluoromethane	0.500	U	0.500	0.150	ug/L	1		07/20/17 21:48
Vinyl chloride	0.400	U	0.400	0.120	ug/L	1	(<2)	07/20/17 21:48
Xylenes (total)	0.500	U	0.500	0.150	ug/L	1	(<10000)	07/20/17 21:48
Surrogates								
1,2-Dichloroethane-D4 (surr)	112		70-130		%	1		07/20/17 21:48
4-Bromofluorobenzene (surr)	101		70-130		%	1		07/20/17 21:48
Toluene-d8 (surr)	101		70-130		%	1		07/20/17 21:48

Batch Information

Analytical Batch: VMS16975
Analytical Method: EPA 524.2
Analyst: NRB
Analytical Date/Time: 07/20/17 21:48
Container ID: 1174480010-A

Prep Batch: VXX30937
Prep Method: SW5030B
Prep Date/Time: 07/20/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/25/2017 4:35:00PM

Method Blank

Blank ID: MB for HBN 1763924 [VXX/30889]
Blank Lab ID: 1398919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480001, 1174480002, 1174480009

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	90.9	50-150		%

Batch Information

Analytical Batch: VFC13752
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/18/2017 10:55:00AM

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 7/18/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30889]
Blank Spike Lab ID: 1398922
Date Analyzed: 07/18/2017 11:52

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30889]
Spike Duplicate Lab ID: 1398923
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480001, 1174480002, 1174480009

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.998	100	1.00	0.992	99	(60-120)	0.63	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	97.6	98	0.0500	92.6	93	(50-150)	5.20	

Batch Information

Analytical Batch: **VFC13752**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX30889**
Prep Method: **SW5030B**
Prep Date/Time: **07/18/2017 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

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1763924 [VXX/30889]
Blank Lab ID: 1398919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480001, 1174480002, 1174480009

Results by **SW8021B**

Parameter	Results	LOQ/CL	DL	Units
Benzene	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	95.1	77-115		%

Batch Information

Analytical Batch: VFC13752
Analytical Method: SW8021B
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/18/2017 10:55:00AM

Prep Batch: VXX30889
Prep Method: SW5030B
Prep Date/Time: 7/18/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30889]
Blank Spike Lab ID: 1398920
Date Analyzed: 07/18/2017 11:33

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30889]
Spike Duplicate Lab ID: 1398921
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480001, 1174480002, 1174480009

Results by **SW8021B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Benzene	100	108	108	100	110	110	(80-120)	1.90	(< 20)
Ethylbenzene	100	107	107	100	108	108	(75-125)	1.50	(< 20)
o-Xylene	100	105	105	100	108	108	(80-120)	2.30	(< 20)
P & M -Xylene	200	211	105	200	215	108	(75-130)	2.10	(< 20)
Toluene	100	102	102	100	104	104	(75-120)	1.80	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50	100	100	50	101	101	(77-115)	0.77	

Batch Information

Analytical Batch: **VFC13752**
Analytical Method: **SW8021B**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX30889**
Prep Method: **SW5030B**
Prep Date/Time: **07/18/2017 08:00**
Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1763995 [VXX/30899]
Blank Lab ID: 1399237

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	88.1	50-150		%

Batch Information

Analytical Batch: VFC13754
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/19/2017 12:00:00PM

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 7/19/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30899]
Blank Spike Lab ID: 1399240
Date Analyzed: 07/19/2017 12:57

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30899]
Spike Duplicate Lab ID: 1399241
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.05	105	1.00	1.03	103	(60-120)	2.30	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	92.2	92	0.0500	95.9	96	(50-150)	4.00	

Batch Information

Analytical Batch: **VFC13754**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX30899**
Prep Method: **SW5030B**
Prep Date/Time: **07/19/2017 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

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1763995 [VXX/30899]
Blank Lab ID: 1399237

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **SW8021B**

Parameter	Results	LOQ/CL	DL	Units
Benzene	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	95.6	77-115		%

Batch Information

Analytical Batch: VFC13754
Analytical Method: SW8021B
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/19/2017 12:00:00PM

Prep Batch: VXX30899
Prep Method: SW5030B
Prep Date/Time: 7/19/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30899]
Blank Spike Lab ID: 1399238
Date Analyzed: 07/19/2017 12:38

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30899]
Spike Duplicate Lab ID: 1399239
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **SW8021B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Benzene	100	107	107	100	117	117	(80-120)	9.00	(< 20)
Ethylbenzene	100	106	106	100	114	114	(75-125)	7.90	(< 20)
o-Xylene	100	104	104	100	113	113	(80-120)	8.40	(< 20)
P & M -Xylene	200	209	104	200	226	113	(75-130)	8.10	(< 20)
Toluene	100	101	101	100	109	109	(75-120)	7.10	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50	100	100	50	101	101	(77-115)	1.50	

Batch Information

Analytical Batch: **VFC13754**
Analytical Method: **SW8021B**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX30899**
Prep Method: **SW5030B**
Prep Date/Time: **07/19/2017 08:00**
Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1764102 [VXX/30910]
Blank Lab ID: 1399538

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480003, 1174480004

Results by **SW8021B**

Parameter	Results	LOQ/CL	DL	Units
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene (surr)	89.1	77-115		%

Batch Information

Analytical Batch: VFC13756
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/21/2017 12:33:00AM

Prep Batch: VXX30910
Prep Method: SW5030B
Prep Date/Time: 7/20/2017 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30910]
Blank Spike Lab ID: 1399539
Date Analyzed: 07/21/2017 01:29

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30910]
Spike Duplicate Lab ID: 1399540
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480003, 1174480004

Results by **SW8021B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Toluene	100	94.5	95	100	96.5	97	(75-120)	2.10	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50	91.2	91	50	92.2	92	(77-115)	1.20	

Batch Information

Analytical Batch: **VFC13756**
Analytical Method: **SW8021B**
Instrument: **Agilent 7890A PID/FID**
Analyst: **ST**

Prep Batch: **VXX30910**
Prep Method: **SW5030B**
Prep Date/Time: **07/20/2017 08:00**
Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1764451 [VXX/30937]
Blank Lab ID: 1400363

Matrix: Drinking Water

QC for Samples:
1174480009, 1174480010

Results by **EPA 524.2**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.250U	0.500	0.150	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.250U	0.500	0.150	ug/L
1,1-Dichloroethane	0.250U	0.500	0.150	ug/L
1,1-Dichloroethene	0.250U	0.500	0.150	ug/L
1,1-Dichloropropene	0.250U	0.500	0.150	ug/L
1,2,3-Trichlorobenzene	0.250U	0.500	0.150	ug/L
1,2,3-Trichloropropane	0.250U	0.500	0.180	ug/L
1,2,4-Trichlorobenzene	0.250U	0.500	0.150	ug/L
1,2,4-Trimethylbenzene	0.250U	0.500	0.150	ug/L
1,2-Dibromo-3-chloropropane	1.00U	2.00	0.620	ug/L
1,2-Dibromoethane	0.250U	0.500	0.150	ug/L
1,2-Dichlorobenzene	0.250U	0.500	0.150	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.250U	0.500	0.150	ug/L
1,3,5-Trimethylbenzene	0.250U	0.500	0.150	ug/L
1,3-Dichlorobenzene	0.250U	0.500	0.150	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.250U	0.500	0.150	ug/L
2-Chlorotoluene	0.250U	0.500	0.150	ug/L
4-Chlorotoluene	0.250U	0.500	0.150	ug/L
4-Isopropyltoluene	0.250U	0.500	0.150	ug/L
Benzene	0.250U	0.500	0.150	ug/L
Bromobenzene	0.250U	0.500	0.150	ug/L
Bromochloromethane	0.250U	0.500	0.150	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.250U	0.500	0.150	ug/L
Bromomethane	1.00U	2.00	0.620	ug/L
Carbon tetrachloride	0.250U	0.500	0.150	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.250U	0.500	0.150	ug/L
Chloromethane	0.250U	0.500	0.150	ug/L
cis-1,2-Dichloroethene	0.250U	0.500	0.150	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L

Method Blank

Blank ID: MB for HBN 1764451 [VXX/30937]
Blank Lab ID: 1400363

Matrix: Drinking Water

QC for Samples:
1174480009, 1174480010

Results by **EPA 524.2**

Parameter	Results	LOQ/CL	DL	Units
Dibromomethane	0.250U	0.500	0.150	ug/L
Dichlorodifluoromethane	0.250U	0.500	0.150	ug/L
Ethylbenzene	0.250U	0.500	0.150	ug/L
Hexachlorobutadiene	0.250U	0.500	0.150	ug/L
Isopropylbenzene (Cumene)	0.250U	0.500	0.150	ug/L
Methylene chloride	0.250U	0.500	0.150	ug/L
Methyl-t-butyl ether	0.500U	1.00	0.310	ug/L
Naphthalene	0.250U	0.500	0.150	ug/L
n-Butylbenzene	0.250U	0.500	0.150	ug/L
n-Propylbenzene	0.250U	0.500	0.150	ug/L
o-Xylene	0.250U	0.500	0.150	ug/L
P & M -Xylene	0.250U	0.500	0.150	ug/L
sec-Butylbenzene	0.250U	0.500	0.150	ug/L
Styrene	0.250U	0.500	0.150	ug/L
tert-Butylbenzene	0.250U	0.500	0.150	ug/L
Tetrachloroethene	0.250U	0.500	0.150	ug/L
Toluene	0.250U	0.500	0.150	ug/L
trans-1,2-Dichloroethene	0.250U	0.500	0.150	ug/L
trans-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Trichloroethene	0.250U	0.500	0.150	ug/L
Trichlorofluoromethane	0.250U	0.500	0.150	ug/L
Vinyl chloride	0.200U	0.400	0.120	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	108	70-130		%
4-Bromofluorobenzene (surr)	98.5	70-130		%
Toluene-d8 (surr)	98.6	70-130		%

Batch Information

Analytical Batch: VMS16975
Analytical Method: EPA 524.2
Instrument: VPA 780/5975 GC/MS
Analyst: NRB
Analytical Date/Time: 7/20/2017 4:03:00PM

Prep Batch: VXX30937
Prep Method: SW5030B
Prep Date/Time: 7/20/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30937]
Blank Spike Lab ID: 1400364
Date Analyzed: 07/20/2017 18:34

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30937]
Spike Duplicate Lab ID: 1400365
Matrix: Drinking Water

QC for Samples: 1174480009, 1174480010

Results by **EPA 524.2**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	31.7	106	30	31.5	105	(70-130)	0.52	(< 30)
1,1,1-Trichloroethane	30	31.3	104	30	30.6	102	(70-130)	2.30	(< 30)
1,1,2,2-Tetrachloroethane	30	29.2	97	30	29.5	99	(70-130)	1.10	(< 30)
1,1,2-Trichloroethane	30	31.1	104	30	31.4	105	(70-130)	1.00	(< 30)
1,1-Dichloroethane	30	30.1	100	30	29.5	98	(70-130)	2.00	(< 30)
1,1-Dichloroethene	30	30.4	101	30	29.0	97	(70-130)	4.60	(< 30)
1,1-Dichloropropene	30	31.6	105	30	31.0	103	(70-130)	2.10	(< 30)
1,2,3-Trichlorobenzene	30	29.0	97	30	30.9	103	(70-130)	6.30	(< 30)
1,2,3-Trichloropropane	30	29.4	98	30	29.4	98	(70-130)	0.02	(< 30)
1,2,4-Trichlorobenzene	30	30.1	100	30	30.7	102	(70-130)	2.00	(< 30)
1,2,4-Trimethylbenzene	30	31.6	105	30	31.7	106	(70-130)	0.11	(< 30)
1,2-Dibromo-3-chloropropane	30	30.1	100	30	31.3	104	(70-130)	3.80	(< 30)
1,2-Dibromoethane	30	31.4	105	30	32.0	107	(70-130)	2.00	(< 30)
1,2-Dichlorobenzene	30	29.5	99	30	29.8	100	(70-130)	1.00	(< 30)
1,2-Dichloroethane	30	29.2	97	30	28.8	96	(70-130)	1.50	(< 30)
1,2-Dichloropropane	30	30.5	102	30	30.8	103	(70-130)	0.91	(< 30)
1,3,5-Trimethylbenzene	30	31.1	104	30	31.1	104	(70-130)	0.06	(< 30)
1,3-Dichlorobenzene	30	30.0	100	30	30.3	101	(70-130)	1.20	(< 30)
1,3-Dichloropropane	30	30.8	103	30	31.3	104	(70-130)	1.60	(< 30)
1,4-Dichlorobenzene	30	29.7	99	30	30.3	101	(70-130)	1.90	(< 30)
2,2-Dichloropropane	30	30.4	101	30	29.4	98	(70-130)	3.40	(< 30)
2-Chlorotoluene	30	30.3	101	30	30.6	102	(70-130)	1.10	(< 30)
4-Chlorotoluene	30	30.8	103	30	31.0	103	(70-130)	0.38	(< 30)
4-Isopropyltoluene	30	31.7	106	30	31.2	104	(70-130)	1.50	(< 30)
Benzene	30	30.7	102	30	30.4	101	(70-130)	0.86	(< 30)
Bromobenzene	30	29.2	97	30	29.6	99	(70-130)	1.30	(< 30)
Bromochloromethane	30	31.5	105	30	31.0	103	(70-130)	1.70	(< 30)
Bromodichloromethane	30	31.9	106	30	31.3	104	(70-130)	1.90	(< 30)
Bromoform	30	33.1	110	30	33.2	111	(70-130)	0.40	(< 30)
Bromomethane	30	47.0	157 *	30	41.9	140 *	(70-130)	11.40	(< 30)
Carbon tetrachloride	30	33.0	110	30	31.6	105	(70-130)	4.30	(< 30)
Chlorobenzene	30	28.9	96	30	29.0	97	(70-130)	0.35	(< 30)
Chloroethane	30	35.9	120	30	31.4	105	(70-130)	13.10	(< 30)
Chloroform	30	29.3	98	30	28.6	95	(70-130)	2.30	(< 30)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30937]
Blank Spike Lab ID: 1400364
Date Analyzed: 07/20/2017 18:34

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30937]
Spike Duplicate Lab ID: 1400365
Matrix: Drinking Water

QC for Samples: 1174480009, 1174480010

Results by **EPA 524.2**

	Blank Spike (ug/L)				Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
Chloromethane	30	38.1	127		30	41.8	139	*	(70-130)	9.30	(< 30)
cis-1,2-Dichloroethene	30	30.2	101		30	29.8	99		(70-130)	1.60	(< 30)
cis-1,3-Dichloropropene	30	32.4	108		30	32.1	107		(70-130)	0.97	(< 30)
Dibromochloromethane	30	32.4	108		30	32.7	109		(70-130)	0.92	(< 30)
Dibromomethane	30	30.1	100		30	29.7	99		(70-130)	1.30	(< 30)
Dichlorodifluoromethane	30	46.1	154	*	30	44.4	148	*	(70-130)	3.80	(< 30)
Ethylbenzene	30	30.3	101		30	30.5	102		(70-130)	0.65	(< 30)
Hexachlorobutadiene	30	31.5	105		30	29.4	98		(70-130)	6.90	(< 30)
Isopropylbenzene (Cumene)	30	31.8	106		30	31.8	106		(70-130)	0.07	(< 30)
Methylene chloride	30	30.3	101		30	29.6	99		(70-130)	2.50	(< 30)
Methyl-t-butyl ether	45	49.7	110		45	49.8	111		(70-130)	0.27	(< 30)
Naphthalene	30	29.2	97		30	32.9	110		(70-130)	12.10	(< 30)
n-Butylbenzene	30	33.2	111		30	32.0	107		(70-130)	3.60	(< 30)
n-Propylbenzene	30	30.8	103		30	30.8	103		(70-130)	0.26	(< 30)
o-Xylene	30	31.1	104		30	31.3	104		(70-130)	0.69	(< 30)
P & M -Xylene	60	62.5	104		60	63.0	105		(70-130)	0.73	(< 30)
sec-Butylbenzene	30	31.9	106		30	31.3	104		(70-130)	1.90	(< 30)
Styrene	30	32.6	109		30	32.7	109		(70-130)	0.56	(< 30)
tert-Butylbenzene	30	31.7	106		30	31.3	104		(70-130)	1.20	(< 30)
Tetrachloroethene	30	30.1	100		30	29.9	100		(70-130)	0.69	(< 30)
Toluene	30	28.0	93		30	27.8	93		(70-130)	0.60	(< 30)
trans-1,2-Dichloroethene	30	30.0	100		30	29.3	98		(70-130)	2.20	(< 30)
trans-1,3-Dichloropropene	30	31.6	105		30	32.2	107		(70-130)	1.70	(< 30)
Trichloroethene	30	31.0	103		30	30.3	101		(70-130)	2.20	(< 30)
Trichlorofluoromethane	30	33.2	111		30	31.6	105		(70-130)	4.90	(< 30)
Vinyl chloride	30	34.9	116		30	34.9	116		(70-130)	0.25	(< 30)
Surrogates											
1,2-Dichloroethane-D4 (surr)	30	98.6	99		30	96.8	97		(70-130)	1.90	
4-Bromofluorobenzene (surr)	30	98	98		30	99	99		(70-130)	1.00	
Toluene-d8 (surr)	30	98.6	99		30	98.1	98		(70-130)	0.54	

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [VXX30937]
Blank Spike Lab ID: 1400364
Date Analyzed: 07/20/2017 18:34

Spike Duplicate ID: LCSD for HBN 1174480 [VXX30937]
Spike Duplicate Lab ID: 1400365
Matrix: Drinking Water

QC for Samples: 1174480009, 1174480010

Results by **EPA 524.2**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: **VMS16975**
Analytical Method: **EPA 524.2**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **NRB**

Prep Batch: **VXX30937**
Prep Method: **SW5030B**
Prep Date/Time: **07/20/2017 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1763768 [XXX/37897]
Blank Lab ID: 1398443

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480001, 1174480002, 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.0750U	0.150	0.0450	mg/L
Surrogates				
5a Androstane (surr)	82.2	60-120		%

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: KMD
Analytical Date/Time: 7/20/2017 8:44:00PM

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 7/17/2017 9:37:43AM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [XXX37897]
Blank Spike Lab ID: 1398444
Date Analyzed: 07/20/2017 20:54

Spike Duplicate ID: LCSD for HBN 1174480 [XXX37897]
Spike Duplicate Lab ID: 1398445
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480001, 1174480002, 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	5	4.70	94	5	4.89	98	(75-125)	4.10	(< 20)
Surrogates									
5a Androstane (surr)	0.1	99.3	99	0.1	104	104	(60-120)	4.20	

Batch Information

Analytical Batch: **XFC13575**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **KMD**

Prep Batch: **XXX37897**
Prep Method: **SW3520C**
Prep Date/Time: **07/17/2017 09:37**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1763768 [XXX/37897]
Blank Lab ID: 1398443

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1174480001, 1174480002, 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.0625U	0.125	0.0375	mg/L
Surrogates				
n-Triacontane-d62 (surr)	85.2	60-120		%

Batch Information

Analytical Batch: XFC13575
Analytical Method: AK103
Instrument: Agilent 7890B F
Analyst: KMD
Analytical Date/Time: 7/20/2017 8:44:00PM

Prep Batch: XXX37897
Prep Method: SW3520C
Prep Date/Time: 7/17/2017 9:37:43AM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Blank Spike Summary

Blank Spike ID: LCS for HBN 1174480 [XXX37897]
Blank Spike Lab ID: 1398444
Date Analyzed: 07/20/2017 20:54

Spike Duplicate ID: LCSD for HBN 1174480 [XXX37897]
Spike Duplicate Lab ID: 1398445
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1174480001, 1174480002, 1174480003, 1174480004, 1174480005, 1174480006, 1174480007, 1174480008

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	5	4.85	97	5	5.15	103	(60-120)	5.90	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.1	90.6	91	0.1	95.1	95	(60-120)	4.80	

Batch Information

Analytical Batch: **XFC13575**
Analytical Method: **AK103**
Instrument: **Agilent 7890B F**
Analyst: **KMD**

Prep Batch: **XXX37897**
Prep Method: **SW3520C**
Prep Date/Time: **07/17/2017 09:37**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL

Print Date: 07/25/2017 4:35:29PM

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1174480

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

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: BGES

CONTACT: William Schmaltz | PHONE #: 907-644-2900

PROJECT NAME: ~~Custom Truck~~ ET Six Robblees | Project/ PWSID/ PERMIT#:

REPORTS TO: Jayne Martin | E-MAIL:

INVOICE TO: BGES | QUOTE #: Open | P.O. #:

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	DRO/RRO (AK102/AK103) LV HCl	GRO/BTEX (AK101/8021B) HCl		VOC (524.2) HCl							REMARKS/ LOC ID
(1) A-E	MW12-0712	07/12/17	10:27	W	5	G	X	X									
(2) A-E	MW5-0712	07/12/17	12:32	W	5	G	X	X									
(3) A-E	MW14-0712	07/12/17	15:20	W	5	G	X	X									
(4) A-E	MW16-0712	07/12/17	15:30	W	5	G	X	X									
(5) A-E	MW9-0713	07/13/17	09:35	W	5	G	X	X									
(6) A-E	MW3-0713	07/13/17	11:18	W	5	G	X	X									
(7) A-E	MW8-0713	07/13/17	14:02	W	5	G	X	X									
(8) A-E	MW17-0713	07/13/17	14:20	W	5	G	X	X									
(9) A-I	Trip blank			ET 8 9				X		X							
	Trip blank				3												ET

Section 5

	Date	Time	
Relinquished By: (1)	7/14/17	11:30	Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	7/14/17	11:28	Received For Laboratory By: Celeste M. Sage

Section 4

DOD Project? Yes No

Data Deliverable Requirements: Level 2

Cooler ID:

Requested Turnaround Time and/or Special Instructions: 10 day

Temp Blank °C: 5.7 D36 or Ambient [ ] (See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT (See attached Sample Receipt Form)

HD

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECOR

1174480

Locations Nationwide

Alaska	Maryland
New Jersey	New York
North Carolina	Indiana
West Virgina	Kentucky

www.us.sgs.com

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: BGES

CONTACT: William Schmaltz — PHONE #: 907-644-2900

PROJECT NAME: ~~Custom Truck~~ ET Six Robblees — Project/ PWSID/ PERMIT#: —

REPORTS TO: Jayne Martin — E-MAIL: —

INVOICE TO: BGES — QUOTE #: Open — P.O. #: —

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	DRO/RRO (AK102/AK103) LV HCl	GRO/BTEX (AK101/8021B) HCl		VOC (524.2) HCl							REMARKS/ LOC ID
(10) A-C	FW1-0713	07/13/17	15:20	W	3	G				X							

Section 3

Preservative

Section 4

DOD Project? Yes (No)

Cooler ID: —

Data Deliverable Requirements: Level 2

Requested Turnaround Time and/or Special Instructions: 10 day

Temp Blank °C: 5.7 D36 or Ambient [ ] (See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) INTACT BROKEN ~~ABSENT~~ (See attached Sample Receipt Form)

Section 5

	Date	Time	
Relinquished By: (1)	7/14/17	11:28	Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	7/14/17	11:28	Received For Laboratory By:

HD

[ ] 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

e-Sample Receipt Form

SGS Workorder #: **1174480**

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		Yes — Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 5.7 °C Therm. ID: D36
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? **Note: If times differ <1hr, record details & login per COC.	Yes	
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	Yes	
	N/A	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

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

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1174480001-A	HCL to pH < 2	OK	1174480009-C	HCL to pH < 2	OK
1174480001-B	HCL to pH < 2	OK	1174480009-D	HCL to pH < 2	OK
1174480001-C	HCL to pH < 2	OK	1174480009-E	HCL to pH < 2	OK
1174480001-D	HCL to pH < 2	OK	1174480009-F	HCL to pH < 2	OK
1174480001-E	HCL to pH < 2	OK	1174480009-G	HCL to pH < 2	OK
1174480002-A	HCL to pH < 2	OK	1174480009-H	HCL to pH < 2	OK
1174480002-B	HCL to pH < 2	OK	1174480009-I	HCL to pH < 2	OK
1174480002-C	HCL to pH < 2	OK	1174480010-A	HCL to pH < 2	OK
1174480002-D	HCL to pH < 2	OK	1174480010-B	HCL to pH < 2	OK
1174480002-E	HCL to pH < 2	OK	1174480010-C	HCL to pH < 2	OK
1174480003-A	HCL to pH < 2	OK			
1174480003-B	HCL to pH < 2	OK			
1174480003-C	HCL to pH < 2	OK			
1174480003-D	HCL to pH < 2	OK			
1174480003-E	HCL to pH < 2	OK			
1174480004-A	HCL to pH < 2	OK			
1174480004-B	HCL to pH < 2	OK			
1174480004-C	HCL to pH < 2	OK			
1174480004-D	HCL to pH < 2	OK			
1174480004-E	HCL to pH < 2	OK			
1174480005-A	HCL to pH < 2	OK			
1174480005-B	HCL to pH < 2	OK			
1174480005-C	HCL to pH < 2	OK			
1174480005-D	HCL to pH < 2	OK			
1174480005-E	HCL to pH < 2	OK			
1174480006-A	HCL to pH < 2	OK			
1174480006-B	HCL to pH < 2	OK			
1174480006-C	HCL to pH < 2	OK			
1174480006-D	HCL to pH < 2	OK			
1174480006-E	HCL to pH < 2	OK			
1174480007-A	HCL to pH < 2	OK			
1174480007-B	HCL to pH < 2	OK			
1174480007-C	HCL to pH < 2	OK			
1174480007-D	HCL to pH < 2	OK			
1174480007-E	HCL to pH < 2	OK			
1174480008-A	HCL to pH < 2	OK			
1174480008-B	HCL to pH < 2	OK			
1174480008-C	HCL to pH < 2	OK			
1174480008-D	HCL to pH < 2	OK			
1174480008-E	HCL to pH < 2	OK			
1174480009-A	HCL to pH < 2	OK			
1174480009-B	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.

APPENDIX C
LABORATORY ANALYTICAL DATA QUALITY CONTROL CHECKLIST

Laboratory Data Review Checklist

Completed By:

Evan Tyler

Title:

Environmental Engineer

Date:

December 7, 2017

CS Report Name:

Groundwater Monitoring Report (July 2017)

Report Date:

January 2018

Consultant Firm:

BGES Inc.

Laboratory Name:

SGS North America, Inc.

Laboratory Report Number:

1174480

ADEC File Number:

2100.26.252

Hazard Identification Number:

23658

1174480

1. Laboratory

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

   ☑ Yes ☐ No Comments:

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

   ☐ Yes ☐ No Comments:

   Samples were not transferred to a network laboratory.

2. Chain of Custody (CoC)

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

   ☑ Yes ☐ No Comments:

   b. Correct Analyses requested?

   ☑ Yes ☐ No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   ☑ Yes ☐ No Comments:

   The temperature of the sample cooler that contained the water samples was measured at the laboratory at the time of receipt to be 5.7 degrees Celsius (°C), which is within the ADEC prescribed optimal range of 0° to 6° C.

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

   ☑ Yes ☐ No Comments:

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

   ☑ Yes ☐ No Comments:

   No irregularities were noted by the laboratory.

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

☐ Yes ☐ No Comments:

Not Applicable

e. Data quality or usability affected?

Comments:

Not Applicable

4. Case Narrative

a. Present and understandable?

☑ Yes ☐ No Comments:

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

☑ Yes ☐ No Comments:

The recoveries of dichlorodifluoromethane and bromomethane within the laboratory control spike (LCS) sample associated with Sample FW1-0713, and its associated trip blank, exceeded the laboratory's acceptance range. This indicates a potential for the reported concentration of these analytes to be biased high in the project samples. However, because none of these analytes were detected above their LOQs, and because the LOQs are below their respective ADEC cleanup criteria; it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The recoveries of dichlorodifluoromethane, chloromethane, and bromomethane within the laboratory control spike duplicate (LCSD) sample associated with Sample FW1-0713, and its associated trip blank, exceeded the laboratory's acceptance range. This indicates a potential for the reported concentration of these analytes to be biased high in the project samples. However, because none of these analytes were detected above their LOQs, and because the LOQs are below their respective ADEC cleanup criteria; it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The LOQs for 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane, and vinyl chloride exceeded the ADEC cleanup criteria in Sample FW-0713 that was analyzed as part of this SGS work order. The affected analytes are shown in italics in Table 2. In these instances, where the analytes were not detected above the LOQs, it cannot be determined if the actual concentrations of those analytes exceed the applicable ADEC cleanup criteria.

c. Were all corrective actions documented?

☑ Yes ☐ No Comments:

See 4b, above.

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

Comments:

See 4b, above.

1174480

5. Samples Results

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

☑ Yes ☐ No Comments:

b. All applicable holding times met?

☑ Yes ☐ No Comments:

c. All soils reported on a dry weight basis?

☐ Yes ☑ No Comments:

Only water samples were submitted on this work order.

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

☐ Yes ☑ No Comments:

See 4b, above.

e. Data quality or usability affected?

☐ Yes ☑ No Comments:

See 4b, above.

6. QC Samples

a. Method Blank

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

☑ Yes ☐ No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

☑ Yes ☐ No Comments:

iii. If above LOQ, what samples are affected?

Comments:

Not Applicable

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

☐ Yes ☐ No Comments:

Not Applicable

v. Data quality or usability affected?

Comments:

Not Applicable

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

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

☑ Yes ☐ No Comments:

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

☐ Yes ☑ No Comments:

Metals analysis were not a part of this work order.

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

☐ Yes ☑ No Comments:

See 4b, above.

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

☑ Yes ☐ No Comments:

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

Comments:

See 4b, above.

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

☐ Yes ☒ No Comments:

See 4b, above.

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

Comments:

See 4b, above.

c. Surrogates – Organics Only

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

☒ Yes ☐ No Comments:

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

☒ Yes ☐ No Comments:

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

☐ Yes ☐ No Comments:

Not Applicable

iv. Data quality or usability affected?

Comments:

Not Applicable

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 Comments:

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

☐ Yes ☒ No Comments:

Only one cooler was submitted on this work order.

iii. All results less than LOQ?

☒ Yes ☐ No Comments:

iv. If above LOQ, what samples are affected?

Comments:

Not Applicable

v. Data quality or usability affected?

Comments:

No effect on data quality or usability.

e. Field Duplicate

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

☒ Yes ☐ No Comments:

ii. Submitted blind to lab?

☒ Yes ☐ No Comments:

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☑ Yes ☐ No Comments:

Sample MW16-0712 was a duplicate of MW14-0712 and MW17-0713 was a duplicate of MW8-0713 and was collected to evaluate field sampling precision. The RPDs between the reported concentrations of several analytes for both sample pairs ranged between 0 and 14 percent, which are below the acceptable limit of 30 percent. This indicates good field precision with respect to sampling procedures. The RPDs between reported concentrations of the remaining analytes could not be calculated, as the analytes were not detected at the laboratory's LOQs in one or both of these sample pairs.

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

Comments:

No effect on data quality or usability.

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

☐ Yes ☐ No ☑ Not Applicable

i. All results less than LOQ?

☐ Yes ☐ No Comments:

Not Applicable

ii. If above LOQ, what samples are affected?

Comments:

Not Applicable

iii. Data quality or usability affected?

Comments:

Not Applicable

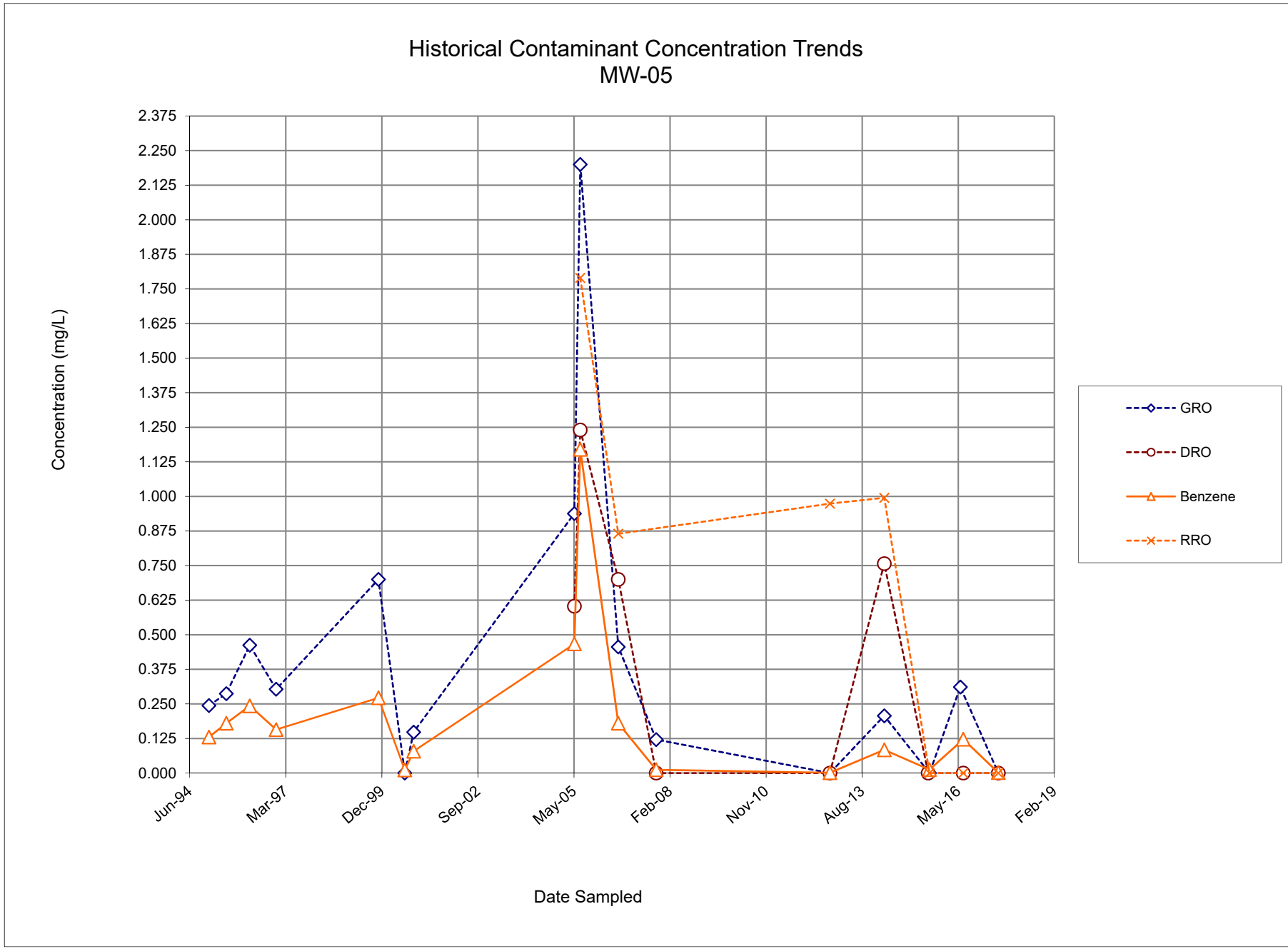
1174480

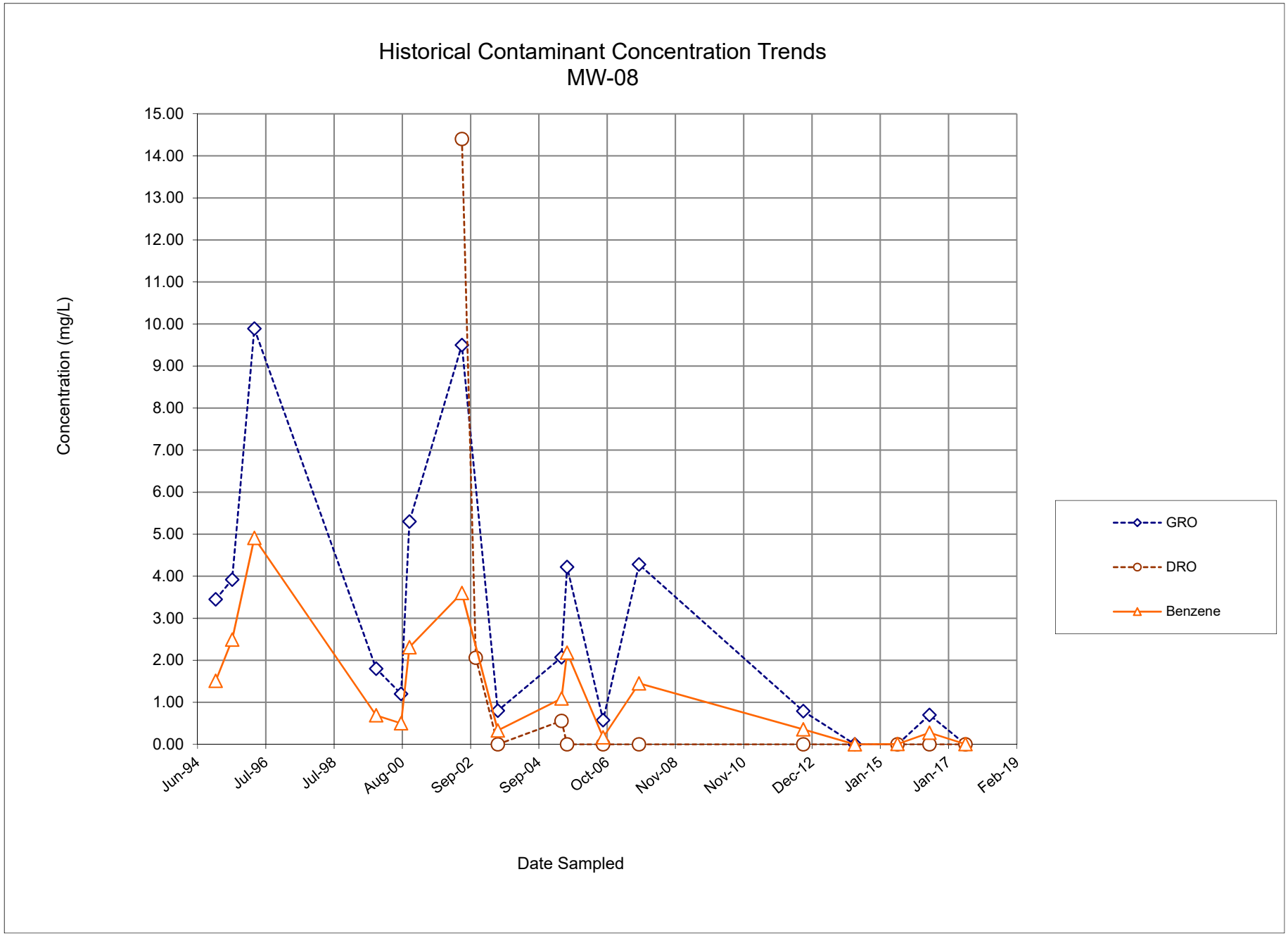
7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

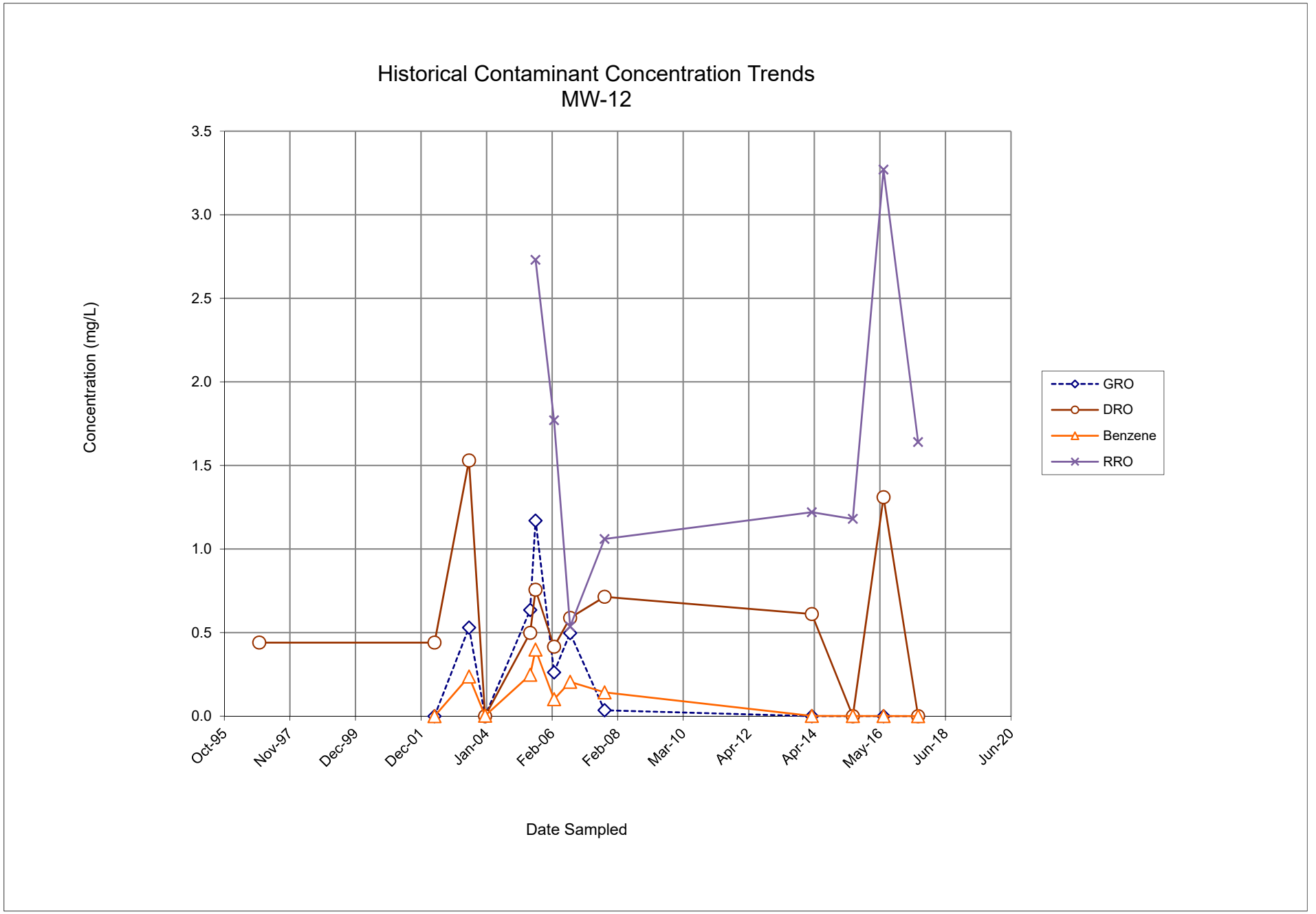
   a. Defined and appropriate?

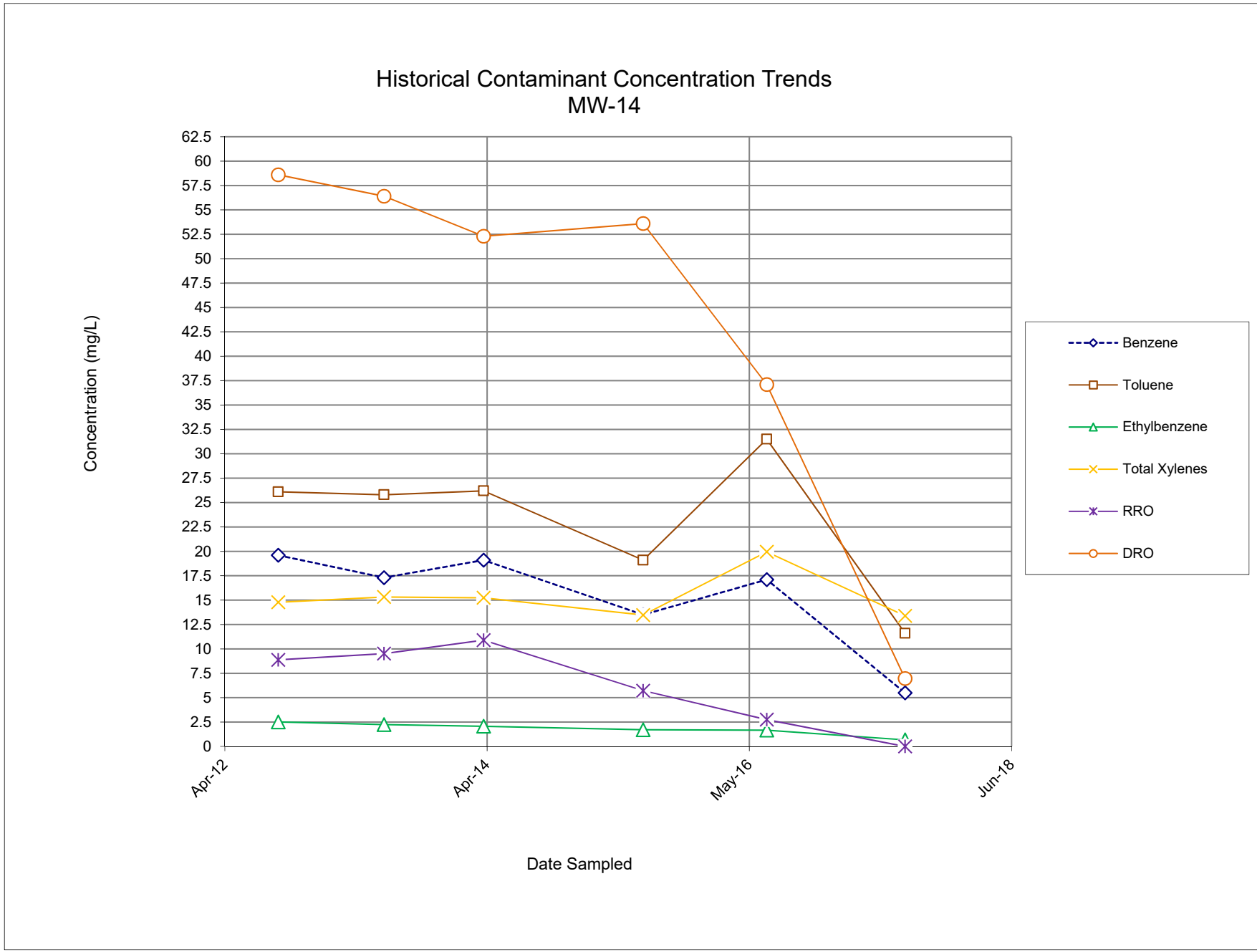
   ☉ Yes ○ No Comments:

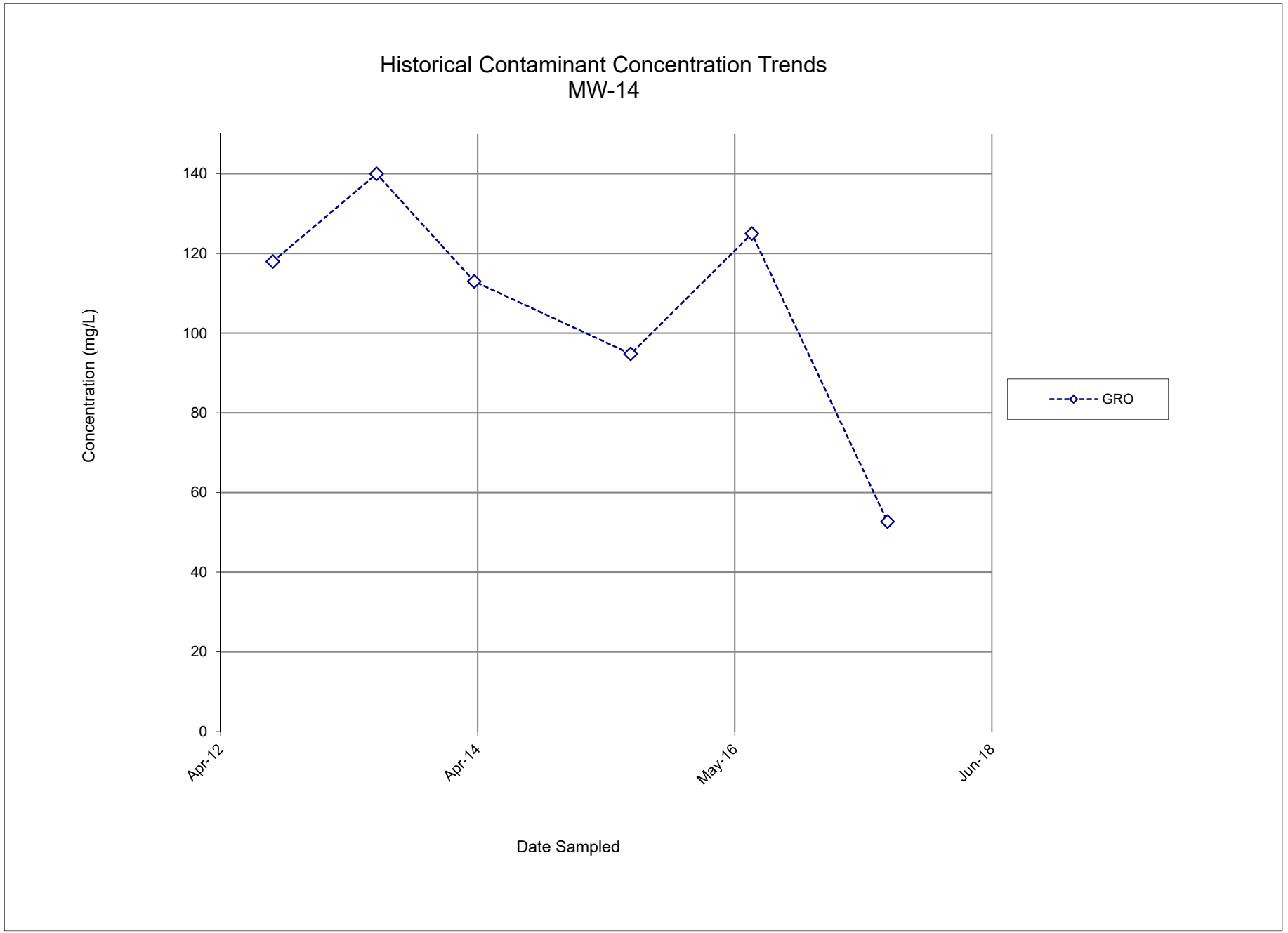
APPENDIX D
GRAPHS OF HISTORICAL WATER QUALITY DATA


Historical Contaminant Concentration Trends
MW-05
Concentration (mg/L)
2.375
2.250
2.125
2.000
1.875
1.750
1.625
1.500
1.375
1.250
1.125
1.000
0.875
0.750
0.625
0.500
0.375
0.250
0.125
0.000
Jun-94
Mar-97
Dec-99
Sep-02
May-05
Feb-08
Nov-10
Aug-13
May-16
Feb-19
Date Sampled
GRO
DRO
Benzene
RRO


Historical Contaminant Concentration Trends
MW-08
Concentration (mg/L)
15.00
14.00
13.00
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Jun-94
Jul-96
Jul-98
Aug-00
Sep-02
Sep-04
Oct-06
Nov-08
Nov-10
Dec-12
Jan-15
Jan-17
Feb-19
Date Sampled
GRO
DRO
Benzene


Historical Contaminant Concentration Trends
MW-12
Concentration (mg/L)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-95
Nov-97
Dec-99
Dec-01
Jan-04
Feb-06
Feb-08
Mar-10
Apr-12
Apr-14
May-16
Jun-18
Jun-20
Date Sampled
GRO
DRO
Benzene
RRO


Historical Contaminant Concentration Trends
MW-14
Concentration (mg/L)
62.5
60
57.5
55
52.5
50
47.5
45
42.5
40
37.5
35
32.5
30
27.5
25
22.5
20
17.5
15
12.5
10
7.5
5
2.5
0
Apr-12
Apr-14
May-16
Jun-18
Date Sampled
Benzene
Toluene
Ethylbenzene
Total Xylenes
RRO
DRO


Historical Contaminant Concentration Trends
MW-14
Concentration (mg/L)
140
120
100
80
60
40
20
0
Apr-12
Apr-14
May-16
Jun-18
Date Sampled
GRO