

BGES, INC.

ENVIRONMENTAL CONSULTANTS

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

GROUNDWATER MONITORING REPORT

JULY 2013

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ACRONYMS

AAC	-	Alaska Administrative Code
ADEC	-	Alaska Department of Environmental Conservation
AK	-	Alaska Method
AWWU	-	Anchorage Water and Wastewater Utility
BGES	-	Braunstein Geological and Environmental Services
BTEX	-	Benzene, Toluene, Ethylbenzene, and Total Xylenes
C	-	Celsius
CSM	-	Conceptual Site Model
DRO	-	Diesel Range Organics
EPA	-	Environmental Protection Agency
GRO	-	Gasoline Range Organics
HCL	-	Hydrochloric Acid
LOQ	-	Limit of Quantitation
mg/L	-	Milligrams per Liter
MRL	-	Method Reporting Limit
PAHs	-	Polynuclear Aromatic Hydrocarbons
QC	-	Quality Control
QP	-	Qualified Person
RPD	-	Relative Percent Difference
RRO	-	Residual Range Organics
SGS	-	SGS North America, Inc.
UST	-	Underground Storage Tank
VOCs	-	Volatile Organic Compounds

1.0 INTRODUCTION

BGES, Inc. (BGES) was retained by Andy Robblee of Six Robblee's, Inc. to conduct groundwater sampling at the Six Robblee's property located at 4748 Old Seward Highway, Anchorage, Alaska (Figure 1). The purpose of this groundwater monitoring event was to assess the groundwater quality at this site. The fieldwork for this round of sampling (the seventh round of groundwater sampling performed by BGES) was performed on June 26, 2013 in general accordance with the work plan prepared by BGES dated May 20, 2005 and updated in an email correspondence to the Alaska Department of Environmental Conservation (ADEC) Project Manager, Katrina Chambon, dated June 18, 2013. This site is listed in the ADEC Contaminated Sites database as a cleanup-complete institutional controls site (ADEC Hazard Identification Number 23658, Event Identification Number 404, and File Number 2100.26.252).

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 has been indicated 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. A report with the results of groundwater sampling completed in August and September of 2012 were presented in the February 2013 Groundwater Monitoring Report.

3.0 PREVIOUS SITE WORK

Two 5,000-gallon UST's, reportedly containing gasoline, were removed from the ground in 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 xylenes (BTEX) were detected in remaining soils.

Groundwater sampling was first performed by BGES in June of 2005. 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. 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 MW11 and MW12. 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 MW1, MW2, MW3, MW5, MW8, MW9, MW10, MW11, MW12, MW15, 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.

Prior to the current monitoring round, groundwater sampling was last performed by BGES in August and September of 2012. Wells that were sampled during that round of sampling event included MW1, MW2, MW3, MW5, MW8, MW9, MW10, MW11, MW13, MW14, MW15, and B6/VE, and were analyzed for GRO, BTEX, DRO, and RRO. In addition, a water sample was collected from the facility well and labeled "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 MW1 and MW17 (duplicate of MW1) exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. The water samples collected from Monitoring Wells MW2, MW13, and MW14 exhibited concentrations of GRO,

BTEX, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. Water Samples MW8 and MW15 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.

The ADEC completed a review of the February 2013 Groundwater Monitoring Report and submitted correspondence to Mr. Robblee on April 22, 2013. The ADEC concluded that vapor intrusion is a potentially complete pathway for contamination, because contaminated backfill material was utilized as fill in the initial UST excavation. In addition, there is subsurface contamination remaining surrounding the former UST excavation. The ADEC requested a work plan to include the following activities:

- Evaluation of the potential for Vapor Intrusion (VI) by initially completing a building survey; and,
- Performance of quarterly groundwater sampling for Monitoring Wells MW1, MW2, MW13, MW14, MW15, and B6/VE, in order to evaluate whether a seasonal trend in contaminant concentrations exists. In addition, it was requested that MW5, MW8, and MW11 be sampled biannually, and that the facility drinking water well be sampled annually. The sampling frequency would be re-evaluated after the first year. The groundwater sample collected from MW13 or MW14 will be analyzed for VOCs, utilizing EPA Method 8260 to evaluate for the presence of solvents.

BGES performed a building survey for the subject property on May 10, 2013 and the results of this survey were documented in the Building Inventory for Vapor Intrusion Assessment dated May 2013.

BGES prepared a brief work plan for the performance of the quarterly groundwater monitoring in an email to supplement the previously approved work plan and submitted to Ms. Katrina Chambon, ADEC Project Manager, for review and approval. Ms. Chambon approved the work plan in an email dated April 22, 2013. Quarterly groundwater monitoring activities that were performed in June of 2013 are the subject of this report and details are presented below.

4.0 JUNE 2013 SAMPLING AND ANALYSIS

BGES collected groundwater samples from Monitoring Wells MW1, MW2, MW13, MW14, MW15 and B6/VE on June 26, 2013 (Figure 2) in accordance with the work plan approved by the ADEC on July 2013 Groundwater Monitoring Report

June 18, 2013.

Prior to sample collection, the depth to water and the total depth of each well were measured using an electronic water level indicator; which 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. 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; a minimum of three casing volumes were removed from each well. 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 low-flow sampling technique and an approximate flow rate between 100 and 450 milliliters per minute (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. One duplicate water sample was collected from Monitoring Well MW13 (labeled MW20) and was submitted “blindly” to the laboratory for analyses. The depth to water, the total depth of the wells, and the water quality parameters are presented in Table 1.

The sample containers were labeled, placed in chilled coolers, 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.

Utilizing previous survey data and the measured depths to water for this sampling event, the groundwater elevation in each monitoring well was calculated. Then, the calculated groundwater elevations for the subject property were utilized to create a groundwater elevation contour map which suggests that general groundwater flow direction at the site is to the southeast (Figure 3). The hydraulic gradient was calculated to be 0.0265 foot per linear foot at the site. The depth to water, the total depth of the well, the water quality parameters, and the calculated water elevations for all wells are presented in Table 1.

Investigation-derived waste generated (purge water) was separated by monitoring well and containerized in eight, 5-gallon buckets. The investigation-derived wastes are currently stored outside

in the southwest corner of the facility yard under a large blue tarp. Each 5-gallon bucket was clearly labeled with the contact information and a description of the contents (potentially-contaminated water). The field notes for these 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 water samples are listed in Table 2 and copies of the laboratory data are included in Appendix B. The analytical results for water sample results were compared to the ADEC Method 2 Cleanup Criteria listed in Alaska Administrative Code (AAC) 75.345—Table C for groundwater.

The samples were analyzed at SGS by the following methods: GRO by Alaska Method (AK) 101; DRO by AK 102; RRO by AK 103; VOCs for water samples MW13 and MW20 (duplicate of MW13) by SW8260B; and BTEX for water samples MW1, MW2, MW14, MW15, and B6/VE by SW8021B.

The water samples collected from the subject property were numbered, for example, MW1-0626, where the prefix MW1 indicates the monitoring well from which the water sample was collected; and 0626 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 MW1 with the date omitted. B6/VE is also a monitoring well and is labeled in the same format as described above.

Seven water samples, including a duplicate sample, were collected from six existing Monitoring Wells (MW1, MW2, MW13, MW14, MW15, and B6/VE) at the site.

The water samples collected from Monitoring Wells MW2, MW14, MW13, and MW20 (duplicate of MW13) exhibited concentrations of GRO, BTEX, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. In addition, Water Samples MW13 and MW20 (duplicate of MW13) exhibited concentrations of 1,2,4-trimethylbenzene and n-propylbenzene, which exceeded their respective ADEC cleanup criteria. The water samples collected from Monitoring Wells MW1 and B6/VE exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. Water Sample MW15 exhibited concentrations of GRO, benzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria.

Analytical results for the groundwater samples are summarized in Table 2, the laboratory analytical data are 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. Sample analyses were provided by SGS of Anchorage, Alaska. All samples were hand-delivered to SGS by BGES personnel under chain of custody protocol.

The samples contained the proper preservatives for the requested analyses. Trip blanks accompanied all volatile samples (GRO, BTEX, and VOCs) through the entirety of the sampling process and delivery to the laboratory. The water samples from MW2 and MW14 exhibited bubbles approximately 6 mm or less in size in the 40-milliliter vials for VOCs analysis on the SGS Sample Receipt form. This indicates a potential for the reported concentrations of GRO and VOCs within these samples to be biased low. SGS indicated that two of the vials for MW2 (laboratory sample IDs 1132689004-B and 1132689004-C) contained headspace (bubbles approximately 6 mm or less); and thus the third vial (laboratory ID 1132689004-A), which was free of headspace was originally analyzed. Re-analysis was required for this sample, however, and vial 1132689004-C was used for the re-analysis. The laboratory data reported for MW2 was for vial 1132689004-C. SGS also indicated that all three sample containers for MW14 (laboratory IDs 1132689005-A, 1132689005-B, and 1132689005-C) contained headspace (bubbles approximately 6 mm or less in size). The vial with the least amount of headspace (1132689005-A) was analyzed; however, this sample also required re-analysis, and vial 1132689005-C was used. The laboratory data reported for MW14 were the results for vial 1132689005-C. Two of the vials from the laboratory trip blank (1132689008-B and 1132689008-C) contained headspace; thus, vial 1132689008-A, which did not contain headspace, was analyzed. During previous groundwater monitoring events, it has been difficult to collect samples for VOCs analysis without headspace from several different monitoring wells at this site. BGES assumes that this may be the result of a surfactant that was reportedly applied to the site previously. The BTEX results of the water samples from these monitor wells during this sampling event were consistent or slightly higher than the results from the previous groundwater sampling event in August and September of 2012. For these reasons, it is our opinion that the presence of headspace in the vials for MW2 and MW14 does not affect the acceptability of the data for their intended use.

A case narrative was included with the laboratory data. Quality Control (QC) failures identified in the case narratives are described below. The following is a discussion of our evaluation of sample conditions and laboratory procedures for the water samples collected during the June 2013 field

activities.

Work Order 1132689

The temperature of both coolers were measured at 2.3 degrees Celsius (C) by the laboratory at the time of receipt, which are within the prescribed limits (4 degrees C +/- 2 degrees C).

The case narrative noted that the instrument blank (laboratory sample number 1458199) result for RRO and DRO was greater than one-half of the limit of quantitation (LOQ); however, the instrument blank result was less than the LOQ. All field samples exhibited RRO and DRO concentrations that exceeded their respective ADEC cleanup criteria. For this reason, it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The case narrative noted that the instrument blank (laboratory sample number 1458418) result for RRO was greater than one-half of the limit of quantitation (LOQ); however, the instrument blank result was less than the LOQ. All field samples exhibited RRO concentrations that exceeded their respective ADEC cleanup criteria. For this reason, it is our opinion that this QC failure does not affect the acceptability of the data for their intended use. The LOQs for 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane, 1,2-dichloropropane, carbon tetrachloride, methylene chloride, and vinyl chloride exceeded their respective ADEC cleanup criteria in Field Samples MW13 and MW20 (duplicate of MW13). Therefore, it cannot be determined if actual concentrations of the previously-listed VOCs within these field samples exceed their respective ADEC cleanup criteria. Because Field Samples MW13 and MW20 (duplicate of MW13) contained concentrations of GRO, DRO, RRO, BTEX, 1,2,4-trimethylbenzene, and n-propylbenzene, that greatly exceeded the ADEC cleanup criteria, it is our opinion that the lack of information concerning the previously-listed VOCs does not affect the interpretation of the data for their intended use.

The water sample MW20 was a duplicate of the water sample collected from Monitoring Well MW13 and was collected to evaluate sampling precision. The Relative Percent Differences (RPDs) calculated utilizing duplicate sample (MW20) collected in association with Field Sample MW13 ranged between 0.73 percent and 17.10 percent, which are all below the ADEC recommended limit of 30 percent. These calculated RPDs indicate excellent field sampling precision for this water sample and water sample duplicate. Because all of these analytes exhibited acceptable RPDs, it is our opinion that the data are acceptable for their intended use.

7.0 CONCEPTUAL SITE MODEL

Utilizing on-site observations, historical information, and ADEC guidance documents, BGES has developed a graphical human health conceptual site model (CSM). This CSM depicts potential exposure routes for both human and ecological receptors for the subject property as a whole (Appendix D). Most of the contamination at the property originated from historical underground storage tanks associated with an automotive dealership that had previously operated on the property. The CSM presented in the 2007 Groundwater Sampling Report (December 2007) is still valid and has not been revised.

8.0 CONCLUSIONS

Groundwater elevations were calculated for the monitoring wells and are listed in Table 1 and the groundwater surface map is depicted on Figure 3. The groundwater flow direction is generally to the southeast. The water samples collected from Monitoring Wells MW1, MW2, B6/VE, MW13, MW14, and MW15 were analyzed for GRO, DRO, RRO, and BTEX. In addition, Water Samples MW13 and MW20 (duplicate of MW13) were analyzed for VOCs.

The water samples collected from Monitoring Wells MW2, MW14, MW13, and MW20 exhibited concentrations of GRO, BTEX, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. In addition, Water Samples MW13 and MW20 (duplicate of MW13) exhibited concentrations of 1,2,4-trimethylbenzene and n-propylbenzene, which exceeded their respective ADEC cleanup criteria. The water samples collected from Monitoring Wells MW1 and B6/VE exhibited concentrations of GRO, benzene, toluene, ethylbenzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. Water Sample MW15 exhibited concentrations of GRO, benzene, DRO, and RRO, which exceeded their respective ADEC cleanup criteria. The approximate extent of groundwater contamination is depicted on Figure 2.

Historically, the contaminant trend is declining in most wells, except for DRO and GRO in MW-1 and MW2, and GRO in B6/VE (Table 3). Monitoring Wells MW13 and MW14 were sampled for the second time and exhibited analyte concentrations that were greater than any of the other monitoring wells. Monitoring Wells MW13 and MW14 were centrally situated between MW1, MW2, MW15 and B6/VE, all of which have several contaminant constituents that exceed the ADEC cleanup criteria (Graphs of Historical Water Quality Data in Appendix E)

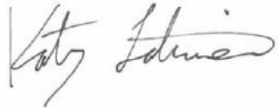
Because of the continuing presence of contaminant concentrations that exceed ADEC cleanup criteria in wells both on and off site, it is recommended that the monitoring wells continue to be monitored on a schedule acceptable to the ADEC, in order to further evaluate the progress of natural attenuation of contaminants at the site. It is recommended that the facility well continue to be sampled at least annually, as requested by the ADEC. It is also recommended that all purge water be disposed of at an appropriate disposal facility such as Emerald Alaska.. Finally, it is recommended that a copy of this report be provided to the ADEC.

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 water 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 report was conducted by Joshua Barsis, Environmental Scientist with BGES, and a Qualified Person (QP) as defined by the ADEC. Mr. Barsis has conducted groundwater monitoring, site characterization, and remediation activities at numerous sites in the Anchorage area and throughout Alaska. This report was prepared by Katy Latimer, Environmental Scientist with BGES, and a QP as defined by the ADEC. Ms. Latimer has conducted numerous site characterization projects in south central Alaska. This report was reviewed by Jayne Martin, Senior Environmental Scientist of BGES. Ms. Martin is a QP, as defined by the ADEC, and has more than 20 years of environmental consulting experience and has conducted and managed numerous site characterization and remediation efforts throughout Alaska and the lower 48 states. This report was approved by Robert N. Braunstein, C.P.G., a Certified Professional Geologist, who has 30 years of professional geologic and environmental experience, and has performed or managed thousands of ESAs in the lower 48-States and in Alaska. He has extensive knowledge and experience with contaminated sites and remediation.

Prepared By:

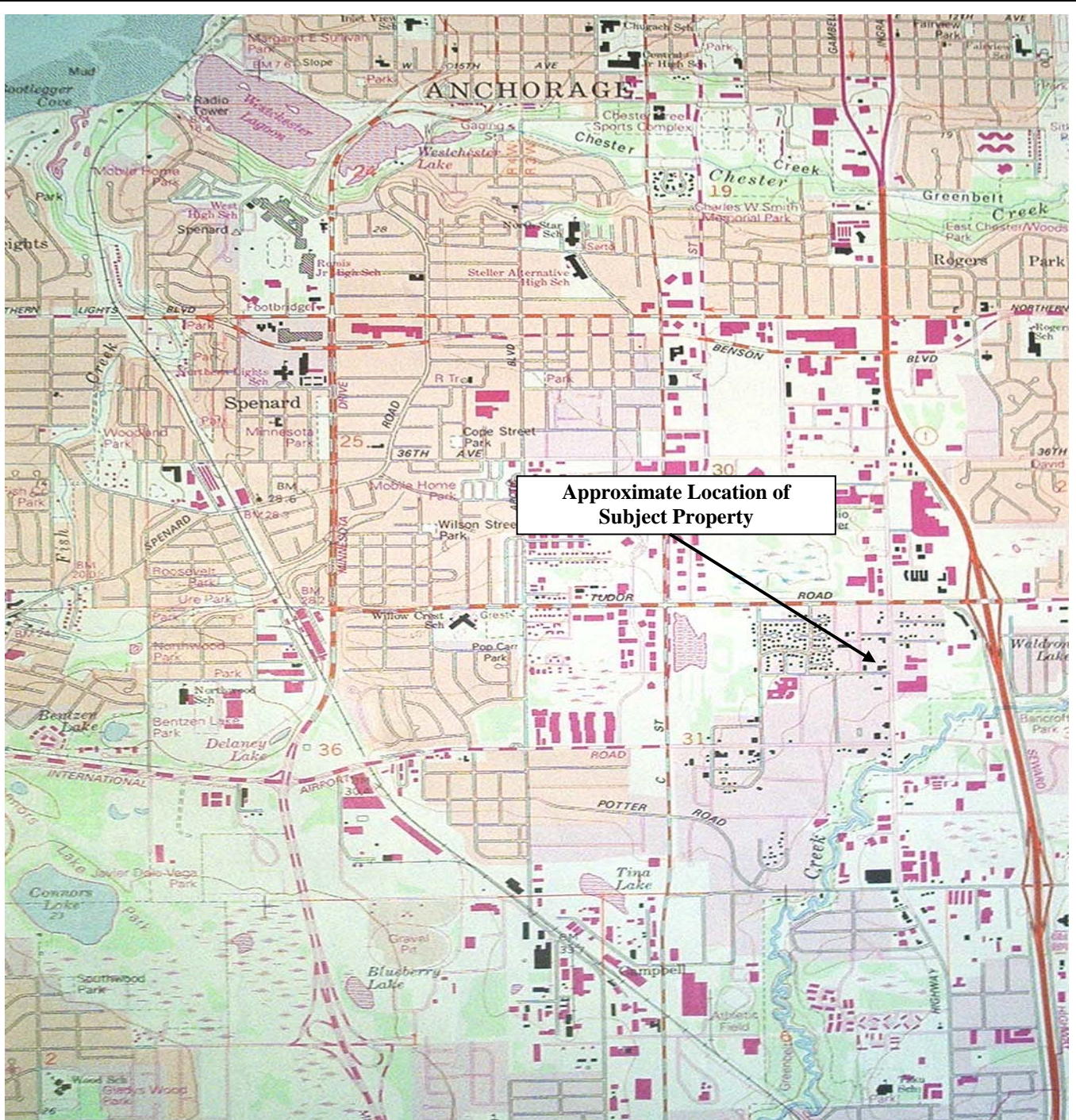


Katy Latimer
Environmental Scientist

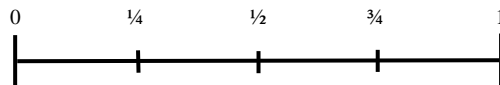
Reviewed By:



Jayne Martin
Senior Environmental Scientist



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



Approximate Scale in Miles

4748 Old Seward Highway
Anchorage, Alaska
Property Vicinity Map

BGES, INC.	July 2013	Figure 1
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Continental Motors

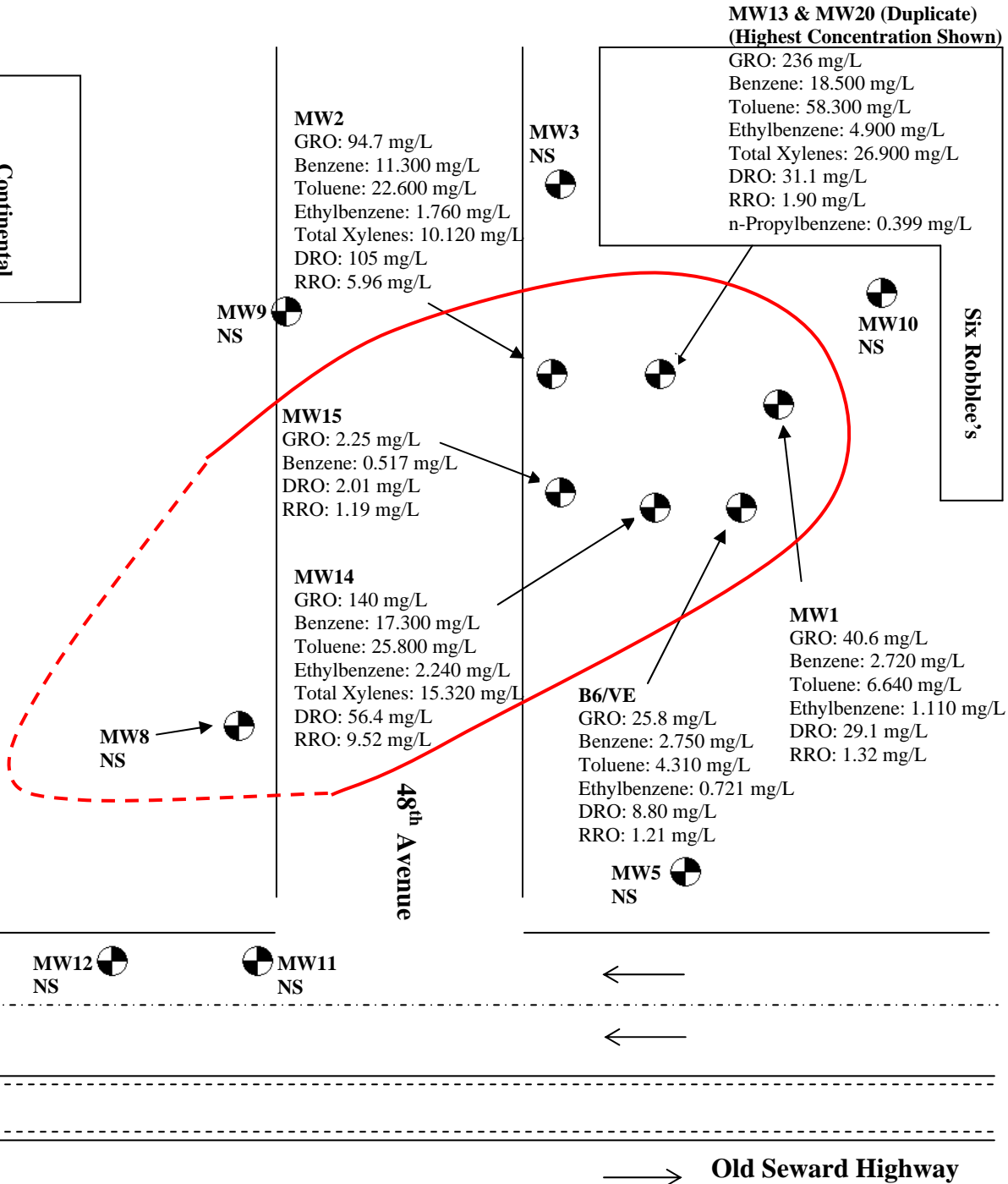
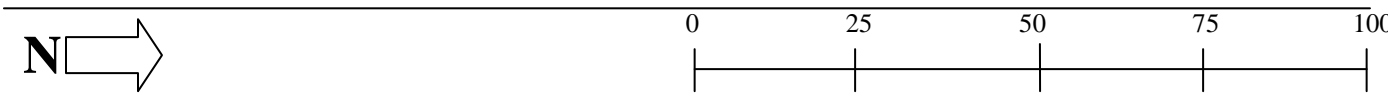


Figure adapted from Chemtrack DRO history diagram.



LEGEND

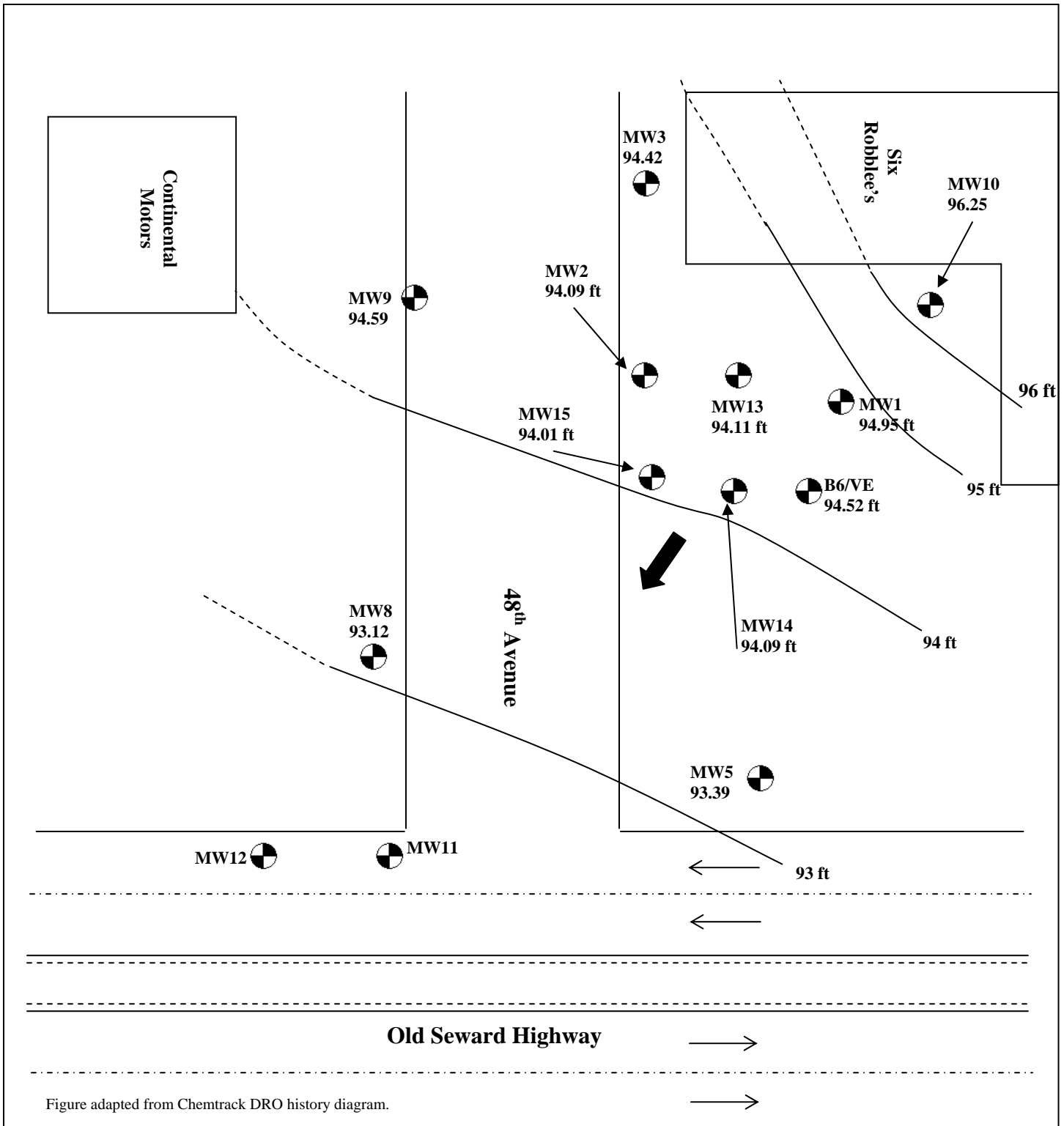
- = Monitoring Well Location and Sampling Results
- = Traffic Pattern
- = Approximate extent of benzene contamination exceeding the ADEC cleanup criteria
- = Inferred perimeter of benzene contamination exceeding the ADEC cleanup criteria
- mg/L = Milligrams/Liter
- NS = Not Sampled

Note: Only concentrations exceeding ADEC cleanup criteria are shown.




Six Robblee's
4748 Old Seward Highway
Anchorage, Alaska

**Monitoring Well Locations and
Sampling Results (June 2013)**

BGES, INC.	July 2013	Figure 2
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LEGEND

-  = Monitoring Well
-  = Groundwater Elevation Contour (dashed where inferred)
-  = Groundwater Flow Direction

Notes:

- Water elevations are noted in bold next to each monitoring well number.
- The hydraulic gradient is approximately 0.025 foot per linear foot.

Approximate Scale in Feet

<p>Six Robblee's 4748 Old Seward Highway Anchorage, Alaska</p>		
<p>Groundwater Elevation Contour Map</p>		
<p>BGES, INC.</p>	<p>July 2013</p>	<p>Figure 3</p>

TABLE 1
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
MONITORING WELL SAMPLING DATA (JUNE 26, 2013)

Well Number	MW1	MW2	MW3	MW5	MW8	MW9	MW10	MW13	MW14	MW15	B6/VE
Date Sampled	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/25/2013
Date of Depth and Elevation Measurement	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/25/2013
Time of Depth to Water Measurement	8:25 AM	8:00 AM	7:30 AM	7:15 AM	7:40 AM	7:50 AM	7:35 AM	8:15 AM	8:05 AM	7:55 AM	8:20 AM
Time Sample Collected	14:30	16:30						19:45	18:30	10:15	13:10
Top of Casing Elevation (feet)	102.65	99.89	100.02	101.19	99.62	99.69	103.35	101.51	101.39	99.81	101.92
Depth to Water (feet below top of casing)	7.70	5.8	5.6	7.8	6.5	5.1	7.1	7.4	7.3	5.8	7.4
Water Elevation (feet)	94.95	94.09	94.42	93.39	93.12	94.59	96.25	94.11	94.09	94.01	94.52
Total Depth of Well (feet below top of casing)	21.60	13.4	9.2	13.1	14.8	13.2	14.9	11.6	13.00	10.50	14.00
Well Casing Diameter (Inches)	2	2	2	2	2	2	2	2	2	2	2
Standing Water Well Volume (gallons)	2.27	1.24	0.59	0.86	1.35	1.32	1.27	0.69	0.93	0.77	1.08
Purge Volume-Actual (gallons)	7.0	4.0						2.5	3.0	2.5	13.0
Temperature (degrees Celsius)	12.9/11.1/10.1	15.9/15.0/15.1						11.8/9.4/8.9	11.8/8.2/9.5	14.5/13.7/13.1	12.0/9.0/12.1/9.5
pH (standard units)	5.84/6.18/6.61	5.86/6.26/6.31						5.73/5.98/6.48	6.29/6.24/6.56	3.58/3.81/4.01	5.97/6.4/6.09/6.81
Conductivity (microsiemens per centimeter)	917/866/818	94.3/816/813						731/718/30.4	564/439.8/518.6	131.3/9.9/39.2	583/500/630/518
Oxidation Reduction Potential (millivolts)	-92.8/-56.2/-47.7	12.3/-7.7/-14.5						28.6/61.6/66.6	65.2/59.4/62.4	16.8/-3.3/6.2	-134.8/-78.1/13.6/-2.8
Notes:	Values separated by / indicate readings for successive well volumes Sampler: J. Barsis Field parameters measured with a YSI Professional Plus Multi-Parameter Meter Weather conditions on June 26, 2013 consisted of blue skies with an ambient air temperature of approximately 80 degrees Fahrenheit.										
								A duplicate sample was collected from MW-13 and labeled MW-20.			

TABLE 2
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
ANALYTICAL RESULTS - WATER (JUNE 2013)

Water Sample No.	Parameter	Results	LOQ	ADEC Soil Cleanup	
		(mg/L)	(mg/L)	Criterion (mg/L) ¹	Analytical Method
MW1-0626	Gasoline Range Organics	40.6	0.0100	2.2	AK101
	Benzene	2.720	0.0500	0.005	SW8021B
	Toluene	6.640	0.100	1.0	SW8021B
	Ethylbenzene	1.110	0.100	0.7	SW8021B
	Total Xylenes	8.000	0.200	10	SW8021B
	Diesel Range Organics	29.1	3.09	1.5	AK102
	Residual Range Organics	1.32	0.515	1.1	AK103
MW2-0626	Gasoline Range Organics	94.7	10.0	2.2	AK101
	Benzene	11.300	0.0500	0.005	SW8021B
	Toluene	22.600	0.100	1.0	SW8021B
	Ethylbenzene	1.760	0.100	0.7	SW8021B
	Total Xylenes	10.120	0.200	10	SW8021B
	Diesel Range Organics	105	6.19	1.5	AK102
	Residual Range Organics	5.96	0.515	1.1	AK103
MW13-0626	Gasoline Range Organics	236	100	2.2	AK101
	Benzene	17.000	0.400	0.005	SW8260B
	Toluene	53.200	1.000	1.0	SW8260B
	Ethylbenzene	4.430	1.000	0.7	SW8260B
	Total Xylenes	24.100	3.000	10	SW8260B
	Diesel Range Organics	26.2	3.00	1.5	AK102
	Residual Range Organics	1.87	0.500	1.1	AK103
	1,2,4-Trimethylbenzene	1.890	1.000	1.8	SW8260B
	1,3,5-Trimethylbenzene	0.625	0.0100	1.8	SW8260B
	4-Isopropyltoluene	0.0137	0.0100	NA	SW8260B
	Isopropylbenzene (Cumene)	0.168	0.0100	3.7	SW8260B
	n-Propylbenzene	0.382	0.0100	0.37	SW8260B
	Naphthalene	0.425	0.0200	0.73	SW8260B
	1,1,2,2-Tetrachloroethane	ND	0.00500	0.0043	SW8260B
	1,1,2-Trichloroethane	ND	0.0100	0.005	SW8260B
	1,2,3-Trichloropropane	ND	0.0100	0.00012	SW8260B
	1,2-Dibromoethane	ND	0.0100	0.00005	SW8260B
	1,2-Dichloropropane	ND	0.0100	0.005	SW8260B
	Carbon tetrachloride	ND	0.0100	0.005	SW8260B
	Methylene chloride	ND	0.0500	0.005	SW8260B
	Vinyl chloride	ND	0.0500	0.002	SW8260B
	All other VOCs	ND	varies	varies	SW8260B

TABLE 2
4748 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
ANALYTICAL RESULTS - WATER (JUNE 2013)

MW20-0626					
(Duplicate of MW13-0626)					
RPD = 3.45%	Gasoline Range Organics	228	<i>100</i>	2.2	SW8260B
RPD = 8.45%	Benzene	18.500	<i>0.400</i>	0.005	SW8260B
RPD = 9.15%	Toluene	58.300	1.000	1.0	SW8260B
RPD = 10.01%	Ethylbenzene	4.900	<i>1.000</i>	0.7	SW8260B
RPD = 10.98%	Total Xylenes	26.900	3.000	10	SW8260B
RPD = 17.10%	Diesel Range Organics	31.1	<i>3.09</i>	1.5	AK102
RPD = 1.59%	Residual Range Organics	1.90	0.515	1.1	AK103
RPD = 12.41%	1,2,4-Trimethylbenzene	2.140	1.000	1.8	SW8260B
RPD = 5.6%	1,3,5-Trimethylbenzene	0.661	0.0100	1.8	SW8260B
RPD = 0.73%	4-Isopropyltoluene	0.0136	0.0100	NA	SW8260B
RPD = 2.93%	Isopropylbenzene (Cumene)	0.173	0.0100	3.7	SW8260B
	n-Butylbenzene	0.0746	0.0100	0.37	SW8260B
RPD = 4.35%	n-Propylbenzene	0.399	0.0100	0.37	SW8260B
RPD = 7.26%	Naphthalene	0.457	0.0200	0.73	SW8260B
	tert-Butylbenzene	0.0107	0.0100	0.37	SW8260B
	<i>1,1,2,2-Tetrachloroethane</i>	<i>ND</i>	<i>0.00500</i>	<i>0.0043</i>	<i>SW8260B</i>
	<i>1,1,2-Trichloroethane</i>	<i>ND</i>	<i>0.0100</i>	<i>0.005</i>	<i>SW8260B</i>
	<i>1,2,3-Trichloropropane</i>	<i>ND</i>	<i>0.0100</i>	<i>0.00012</i>	<i>SW8260B</i>
	<i>1,2-Dibromoethane</i>	<i>ND</i>	<i>0.0100</i>	<i>0.00005</i>	<i>SW8260B</i>
	<i>1,2-Dichloropropane</i>	<i>ND</i>	<i>0.0100</i>	<i>0.005</i>	<i>SW8260B</i>
	<i>Carbon tetrachloride</i>	<i>ND</i>	<i>0.0100</i>	<i>0.005</i>	<i>SW8260B</i>
	<i>Methylene chloride</i>	<i>ND</i>	<i>0.0500</i>	<i>0.005</i>	<i>SW8260B</i>
	<i>Vinyl chloride</i>	<i>ND</i>	<i>0.0100</i>	<i>0.002</i>	<i>SW8260B</i>
	All other VOCs	<i>ND</i>	<i>varies</i>	<i>varies</i>	<i>SW8260B</i>
MW14-0626	Gasoline Range Organics	140.000	<i>100</i>	2.2	AK101
	Benzene	17.300	<i>0.500</i>	0.005	SW8021B
	Toluene	25.800	1.000	1.0	SW8021B
	Ethylbenzene	2.240	<i>1.000</i>	0.7	SW8021B
	Total Xylenes	15.320	2.000	10	SW8021B
	Diesel Range Organics	56.4	<i>2.53</i>	1.5	AK102
	Residual Range Organics	9.52	<i>2.11</i>	1.0	AK103
MW15-0626	Gasoline Range Organics	2.25	1.00	2.2	AK101
	Benzene	0.517	0.00500	0.005	SW8021B
	Toluene	0.213	0.0100	1.0	SW8021B
	Ethylbenzene	0.0567	0.0100	0.7	SW8021B
	Total Xylenes	0.2171	0.0200	10	SW8021B
	Diesel Range Organics	2.01	0.619	1.5	AK102
	Residual Range Organics	1.19	0.515	1.1	AK103
B6/VE-0626	Gasoline Range Organics	25.8	2.00	2.2	AK101
	Benzene	2.750	<i>0.0100</i>	0.005	SW8021B
	Toluene	4.310	0.0200	1.0	SW8021B
	Ethylbenzene	0.721	0.0200	0.7	SW8021B
	Total Xylenes	3.660	0.0400	10	SW8021B
	Diesel Range Organics	8.80	0.619	1.5	AK102
	Residual Range Organics	1.21	0.515	1.1	AK103
¹ = Groundwater cleanup criteria based on 18 AAC 75.345 Table C; April 8, 2012					
ADEC = Alaska Department of Environmental Conservation; AK = Alaska Method					
mg/L = milligrams per Liter; LOQ = Limit of Quantitation; RPD = relative percent difference; VOCs = volatile organic compounds					
<i>Italics</i> = LOQ exceeds applicable cleanup criterion.					
BOLD	= indicates concentration exceeds applicable cleanup criterion.				

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

BGES, INC.

Well No.	Parameter	Date Collected:																	Analytical Method	ADEC Method Two Groundwater Cleanup Level (mg/L) ¹			
		Jan-95	Jul-95	Mar-96	Dec-96	Nov-99	Aug-00	Nov-00	Jun-02	Nov-02	Jul-03	Jan-04	Jun-05	Aug-05	Mar-06	Sep-06	Oct-07	Sep-12			Jun-13		
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	AK101	1.3		
	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	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	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	SW8021b	0.005		
	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	SW8021b	1.0		
	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	SW8021b	0.7		
	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	SW8021b	10.0		
	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	AK101	1.3	
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	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	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	SW8021b	0.005		
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	SW8021b	1.0		
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	SW8021b	0.7		
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	SW8021b	10.0		
Naphthalene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.042	NS	NS	8270C	0.7		
2-Methylnaphthalene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.013	NS	NS	8270C	0.78		
1-Methylnaphthalene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0062	NS	NS	8270C	1.5		
Acenaphthalene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000032	NS	NS	8270C	2.2		
Acenaphthene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000026	NS	NS	8270C	2.2		
Fluorene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000069	NS	NS	8270C	1.46		
Phenanthrene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000051	NS	NS	8270C	11.0		
Anthracene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000097	NS	NS	8270C	11.0		
Fluoranthene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000016	NS	NS	8270C	1.46		
Pyrene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000020	NS	NS	8270C	1.1		
Benzo[<i>a</i>]anthracene		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.000019	NS	NS	8270C	--		
All other analytes		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	8270C	varies		
MW-03		GRO	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.090	NS	NS	<0.0500	ND	NS	AK101	1.3	
		DRO	NS	NS	NS	NS	NS	NS	NS	0.41	NS	NS	NS	NS	0.333	NS	NS	<0.407	ND	NS	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	AK103	1.1	
		Benzene	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	SW8021b	0.005	
		Toluene	<MRL	NS	NS	NS	NS	<MRL	NS	0.0008	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	1.0	
		Ethylbenzene	<MRL	NS	NS	NS	NS	NS	NS	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	0.7	
		Total Xylenes	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<1.50	ND	NS	SW8021b	10.0	
MW-05		GRO	0.244	0.287	0.462	0.303	0.7	<MRL	0.148	NS	NS	NS	NS	0.938	2.200	NS	0.456	0.121	ND	NS	AK101	1.3	
		DRO	NS	NS	NS	0.39	NS	NS	NS	NS	NS	NS	NS	0.603	1.24	NS	0.700	<0.407	ND	NS	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	AK103	1.1	
		Benzene	0.13	0.18	0.243	0.157	0.272	0.011	0.079	NS	NS	NS	NS	NS	0.467	1.170	NS	0.180	0.0119	0.00113	NS	SW8021b	0.005
		Toluene	<MRL	NS	<MRL	<MRL	<MRL	<MRL	<MRL	NS	NS	NS	NS	NS	<MRL	<0.020	NS	0.00450	0.000861	ND	NS	SW8021b	1.0
		Ethylbenzene	<MRL	NS	<MRL	<MRL	<MRL	<MRL	<MRL	NS	NS	NS	NS	NS	0.00236	<0.020	NS	ND	<0.0005	ND	NS	SW8021b	0.7
		Total Xylenes	<MRL	NS	<MRL	<MRL	<MRL	<MRL	<MRL	NS	NS	NS	NS	NS	0.00586	<0.020	NS	0.02128	0.00204	ND	NS	SW8021b	10.0
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	AK101	1.3	
		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	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	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	SW8021b	0.005		
	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	SW8021b	1.0		
	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	SW8021b	0.7		
	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	SW8021b	10.0		
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	AK101	1.3		
	DRO	NS	NS	NS	NS	NS	NS	NS	14.4	2.06	<MRL	NS	0.558	<0.306	NS	ND	<0.394	ND	NS	AK102	1.5		
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.510	NS	NS	ND	<0.394	0.506	NS	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	SW8021b	0.005		
	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	SW8021b	1.0		
	Ethylbenzene	0.004	NS	0.1	<MRL	<MRL	<MRL	<MRL	0.021	NS	<MRL	NS	<MRL	<0.020	NS	0.00415	<0.025	ND	NS	SW8021b	0.7		
	Total Xylenes	0.007	NS	0.23	<MRL	<MRL	<MRL	<MRL	0.34	NS	<MRL	NS	0.0147	0.0256	NS	0.0539	<0.075	ND	NS	SW8021b	10.0		

GRO = Gasoline Range Organics DRO = Diesel Range Organics NS = Not Sampled ND = Not Detected NA = Not Analyzed
<MRL = Value less than Method Reporting Limit. mg/L = milligrams per Liter VOCs = Volatile Organic Compounds
BOLD = Value exceeds ADEC cleanup threshold. ¹ Groundwater cleanup thresholds based on 18AAC 75.345 Table C.

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

Well No.	Date Collected: Parameter	Jan-95	Jul-95	Mar-96	Dec-96	Nov-99	Aug-00	Nov-00	Jun-02	Nov-02	Jul-03	Jan-04	Jun-05	Aug-05	Mar-06	Sep-06	Oct-07	Sep-12	Jun-13	Analytical Method	ADEC Method Two Groundwater Cleanup Level (mg/L)				
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)		(mg/L)				
MW-09	GRO	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.090	NS	NS	<0.050	ND	NS	AK101	1.3				
	DRO	NS	NS	NS	NS	NS	NS	NS	0.44	NS	NS	NS	NS	0.798	NS	NS	<0.407	ND	NS	AK102	1.5				
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.23	NS	NS	<0.407	ND	NS	AK103	1.1				
	Benzene	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	SW8021b	0.005				
	Toluene	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	1.0				
	Ethylbenzene	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	0.7				
	Total Xylenes	<MRL	NS	NS	NS	NS	<MRL	NS	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0015	ND	NS	SW8021b	10.0				
MW-10	GRO	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	NS	NS	NS	NS	<0.090	NS	NS	<0.050	ND	NS	AK101	1.3				
	DRO	NS	NS	NS	0.39	NS	NS	NS	0.32	NS	NS	NS	NS	<0.303	NS	NS	<0.391	ND	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	AK103	1.1				
	Benzene	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	NS	NS	NS	NS	<0.0005	NS	NS	<0.0005	ND	NS	SW8021b	0.005				
	Toluene	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	1.0				
	Ethylbenzene	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	0.7				
	Total Xylenes	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	NS	NS	NS	NS	<0.002	NS	NS	<0.0005	ND	NS	SW8021b	10.0				
MW-11	GRO	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	< 0.090	0.233	ND	<0.050	ND	NS	AK101	1.3				
	DRO	NS	NS	NS	NS	NS	NS	NS	3.82	NS	1.72	<MRL	1.16	2.01	0.650	0.481	0.759	ND	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	AK103	1.1				
	Benzene	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	0.004	<MRL	0.000899	0.00586	0.02280	0.0142	0.00576	ND	NS	SW8021b	0.005				
	Toluene	NS	NS	NS	NS	NS	NS	NS	0.0027	NS	<MRL	<MRL	<MRL	<0.002	0.0601	ND	<0.0005	ND	NS	SW8021b	1.0				
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	<0.002	0.00659	ND	<0.0005	ND	NS	SW8021b	0.7				
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	<0.002	0.03412	ND	<0.0015	ND	NS	SW8021b	10.0				
MW-12	GRO	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	0.53	<MRL	0.635	1.170	0.262	0.497	0.035	NS	NS	AK101	1.3				
	DRO	NS	NS	NS	0.44	NS	NS	NS	0.44	NS	1.53	<MRL	0.498	0.756	0.415	0.588	0.714	NS	NS	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	AK103	1.1				
	Benzene	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	0.237	0.00218	0.247	0.398	0.101	0.205	0.142	NS	NS	SW8021b	0.005				
	Toluene	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	<0.002	0.0322	0.0176	<0.0005	NS	NS	SW8021b	1.0				
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	<0.002	0.00407	0.00260	<0.0005	NS	NS	SW8021b	0.7				
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	<MRL	<MRL	<MRL	<0.002	0.02015	0.01967	<0.0015	NS	NS	SW8021b	10.0				
MW-13	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	217	236	AK101	1.3				
	DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20.1	31.1	AK102	1.5				
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.75	1.90	AK103	1.1				
	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.6	18.500	SW8021b	0.005				
	Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	63.9	58.300	SW8021b	1.0				
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5.29	4.900	SW8021b	0.7				
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26.7	26.900	SW8021b	10.0				
	1,2,4-Trimethylbenzene ¹	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.140			
	n-Propylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.399		
	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	118	140	AK101	1.3			
DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	58.6	56.4	AK102	1.5				
RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8.88	9.52	AK103	1.1				
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.6	17.300	SW8021b	0.005				
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26.1	25.800	SW8021b	1.0				
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.51	2.240	SW8021b	0.7				
Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	14.78	15.320	SW8021b	10.0				
MW-15	GRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	86.100	NS	NS	NS	NS	NS	56.500	1.33	2.25	AK101	1.3	
	DRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.96	NS	NS	NS	NS	NS	4.96	1.03	2.01	AK102	1.5	
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.19	NS	NS	NS	NS	NS	0.439	1.010	1.19	AK103	1.1	
	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.990	0.0467	0.517	SW8021b	0.005
	Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19.800	0.0514	0.213	SW8021b	1.0
	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.030	0.0229	0.0567	SW8021b	0.7
	Total Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10.010	6.810	0.1119	0.2171	SW8021b
Tap Well (facility well)	GRO	NS	NS	<MRL	NS	<MRL	<MRL	NS	<MRL	NS	NS	<MRL	NS	NS	NS	0.305	NS	NS	NS	NS	AK101	1.3			
	DRO	NS	NS	NS	NS	NS	NS	NS	<MRL	NS	NS	<MRL	NS	NS	NS	ND	NS	NS	NS	NS	AK102	1.5			
	RRO	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	NS	AK103	1.1			
	Benzene	NS	NS	<MRL	NS	<MRL	<MRL	NS	<MRL	NS	NS	NS	NS	NS	NS	NS	0.0108	NS	NS	NS	NS	SW8021b ²	0.005		
	Toluene	NS	NS	<MRL	NS	<MRL	<MRL	NS	<MRL	NS	NS	NS	NS	NS	NS	0.0495	NS	NS	NS	NS	NS	SW8021b ²	1.0		
	Ethylbenzene	NS	NS	<MRL	NS	<MRL	<MRL	NS	<MRL	NS	NS	NS	NS	NS	NS	0.00947	NS	NS	NS	NS	NS	SW8021b ²	0.7		
	Total Xylenes	NS	NS	<MRL	NS	<MRL	<MRL	NS	<MRL	NS	NS	NS	NS	NS	NS	0.0613	NS	NS	NS	NS	NS	SW8021b ²	10.0		
VOCs	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	EPA 524.2	varies			

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

<MRL = Value less than Method Reporting Limit. mg/L = milligrams per Liter VOCs = Volatile Organic Compounds

BOLD = Value exceeds ADEC cleanup threshold. ¹ Groundwater cleanup thresholds based on 18AAC 75.345 Table C. ² = During the latest round of groundwater sampling activities in 2012, the samples were analyzed by EPA 524.2 analytical method for VOCs

**APPENDIX A
FIELD NOTES**

9/13/12 - Sunny with overcast clouds 45°F

- Here to pose & sample MWs.
- Depth to H₂O: 5.3
- Total Depth: 13.4
- Need to purge 3.9 gallons
- Started purge at 4pm
- Finished purge at 6pm
- Started sampling at 6pm
- left site at 6:30 pm

9/13/12

End

6-26-13 Six Bubbles Joshua Bore-3

700 BGS onsite to sample wells
mw1, mw2, B6VE, MW13, MW14, & MW15,

Depth to water Table

Time	Well	DTW	TDW	Notes
715	MW5	7.8	13.1	No Plug; Frost heaving of casing
730	MW3	5.6	9.2	Broken Plug; of casing
735	MW10	7.1	14.9	MISSING Cover Screw
740	MW8	6.5	14.8	NO Plug, NO cover screws; First heaving of PVC
750	MW1	5.1	13.2	Broken Plug (not useable); NO cover screws
755	MW15	5.8	10.5	Broken Plug (Not useable); NO cover screws; First heaving of casing
800	MW2	5.8	13.4	NO cover screws; Frost heaving
805	MW14	7.3	13.0	Broken Plug; First heaving of casing
815	MW13	7.4	11.6	NO Plug; First heaving of casing
820	B6VE	7.4	14.0	NO Plug; NO cover screws; Frost heaving
825	MW1	7.7	21.6	NO ISSUES

DTW = Depth to water

TDW = Total depth of well

6-26-13 S, Basis Six Reddies

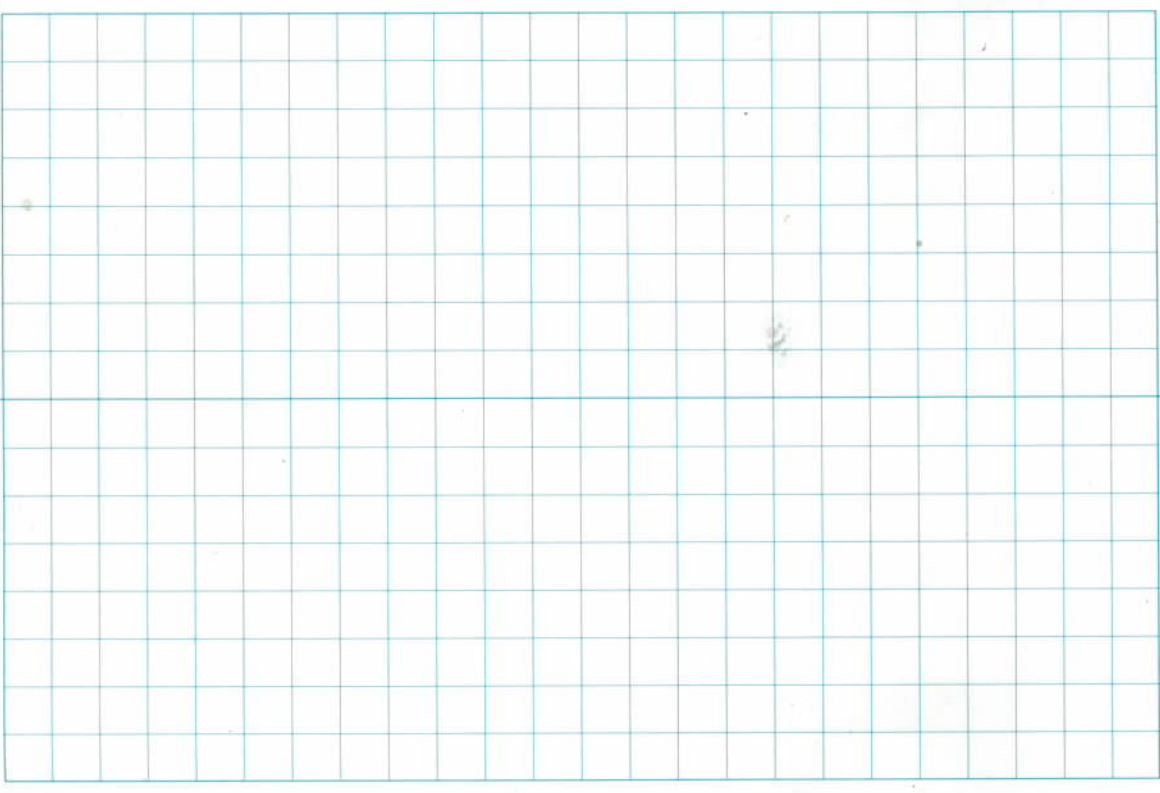
Sampling Table

Well	Time Purge	Time Sample	(Depth) Bladder Intake	Volume Purged	Purge Rate
MW15	845	1015	7 ft	2.5 gallons	100 ml/min
MW15	1100	1310	8.5 ft	13 gallons	400 ml/min
MW1	1330	1430	9 ft	7 gallons	450 ml/min
MW2	1450	1630	7 ft	4 gallons	100 ml/min
MW14	1750	1830	8.5 ft	3 gallons	500 ml/min
MW13	1900	1945	8.5 ft	2.5 gallons	400 ml/min

Purge Rate = 100 - 400 ml/min

~~6-26-13~~

6-26-13



GROUND WATER MONITORING LOG

BGES, INC.

Well Number: MW1

Time Arrived On Site: 700

Weather Conditions: Clear, 80°F

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 825

Top of Casing Elevation: 102.65
 Depth to Water (feet below TOC): 7.7
 Water Elevation: 94.95

Type of Sampling Equipment:
QES MP50 controller; YSI multimeter;
1.75" bladder pump; water level indicator; Battery

Total Depth of Well (feet below TOC): 21.6
 Depth to Water (feet below TOC): 7.7
 Water Column (feet): 13.9

Volume of well (gals) 2,27

=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: 1330
 Time of Sampling: 1430
 Volume purged 7 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 5.84
 Conductivity 917
 ORP -92.8
 Temperature 12.9

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.18
 Conductivity 866
 ORP -56.2
 Temperature 11.1

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.61
 Conductivity 818
 ORP -47.7
 Temperature 10.1

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

Bladder pump intake set approximately 9 feet below top of casing.
Purge rate was approximately 450 ml/min. No petroleum sheen was
present, however, a petroleum odor was noted during purging
activities.

GROUND WATER MONITORING LOG

BGES, INC.

Well Number: MW2

Time Arrived On Site: 700

Weather Conditions: Partly Cloudy, 70°F

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 800

Top of Casing Elevation: 99.89

Type of Sampling Equipment:

Depth to Water (feet below TOC): 5.8

CREDMPSO Controller; YSE Multi-meter;

Water Elevation: 94.09

Water level Indicator; 1.75" bladder pump;

Battery

Total Depth of Well (feet below TOC): 13.4

Depth to Water (feet below TOC): 5.8

Water Column (feet): 7.6

Volume of well (gals) 1.24

=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: 1450

Time of Sampling: 1630

Volume purged 4 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 5.86

Conductivity 94.3

ORP 12.3

Temperature 15.9

pH _____

Conductivity _____

ORP _____

Temperature _____

pH 6.26

Conductivity 816

ORP -7.7

Temperature 15.0

pH _____

Conductivity _____

ORP _____

Temperature _____

pH 6.51

Conductivity 813

ORP -14.5

Temperature 15.1

pH _____

Conductivity _____

ORP _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Dissolved Oxygen _____

Temperature _____

pH _____

Conductivity _____

ORP _____

Dissolved Oxygen _____

Temperature _____

Bladder pump intake set approximately 7 feet below top of casing.
Approximate purge rate is 100 ml/min. No petroleum sheen or odor
was present in this well. Bubbling was prominent during sampling.
All 3 40ml containers did have headspace.

GROUND WATER MONITORING LOG

BGES, INC.

Well Number: MW13

Time Arrived On Site: 700

Weather Conditions: Partly Cloudy, 70°F

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 815

Top of Casing Elevation: 101.51
 Depth to Water (feet below TOC): 7.4
 Water Elevation: 94.11

Type of Sampling Equipment: QED MP50 Controller; YSI multi-meter
 water level meter; 1.75" bladder pump;
 Battery

Total Depth of Well (feet below TOC): 11.6
 Depth to Water (feet below TOC): 7.4
 Water Column (feet): 4.2

Volume of well (gals) 0.69

=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: 1900
 Time of Sampling: 1945
 Volume purged 2.5 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 5.73
 Conductivity 731
 ORP 28.6
 Temperature 11.8

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 5.98
 Conductivity 718
 ORP 61.6
 Temperature 9.4

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.48
 Conductivity 30.4
 ORP 66.6
 Temperature 8.9

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

Bladder pump intake was set approximately 8.5 feet below top of casing. Purge rate was approximately 450 ml/min. A petroleum odor was present during purging activities.

GROUND WATER MONITORING LOG

BGES, INC.

Well Number: MW14

Time Arrived On Site: 7:00

Weather Conditions: Partly Cloudy, 70°F, Windy

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 8:05

Top of Casing Elevation: 101.39
Depth to Water (feet below TOC): 7.3
Water Elevation: 94.09

Type of Sampling Equipment: QED MP50 Controller; Water Level Meter; YSI multimeter; 1.75" bladder pump; battery

Total Depth of Well (feet below TOC): 13.0
Depth to Water (feet below TOC): 7.3
Water Column (feet): 5.7

Volume of well (gals) 0.93

=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: 17:50
Time of Sampling: 18:30
Volume purged 3 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 6.29
Conductivity 564
ORP 65.2
Temperature 11.8

pH _____
Conductivity _____
ORP _____
Temperature _____

pH 6.24
Conductivity 439.8
ORP 59.4
Temperature 8.2

pH _____
Conductivity _____
ORP _____
Temperature _____

pH 6.86
Conductivity 518.6
ORP 62.4
Temperature 7.5

pH _____
Conductivity _____
ORP _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Dissolved Oxygen _____
Temperature _____

pH _____
Conductivity _____
ORP _____
Dissolved Oxygen _____
Temperature _____

Bladder pump was set approximately 8.5 feet below top of casing. Purge rate was approximately 400 ml/min. 2 of 3 vials had ~~excess~~ headspace because of bubbling in wells. A petroleum odor was present during purging activities.

GROUND WATER MONITORING LOG

BGES, INC.

Well Number: MW15

Time Arrived On Site: 700

Weather Conditions: Clear, 70°F

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 755

Top of Casing Elevation: 99.81
 Depth to Water (feet below TOC): 5.8
 Water Elevation: 94.01

Type of Sampling Equipment:
QED MP50 Controller; YSI Multi-Meter; Water level indicator; Bladder Pump (1.75"); Battery

Total Depth of Well (feet below TOC): 10.5
 Depth to Water (feet below TOC): 5.8
 Water Column (feet): 4.7

Volume of well (gals) 0.77

=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: 845

Time of Sampling: 1015

Volume purged 2.5 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 3.58
 Conductivity 131.3
 ORP -16.8
 Temperature 14.5

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 3.81
 Conductivity 9.9
 ORP -3.3
 Temperature 13.7

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 4.01
 Conductivity 39.2
 ORP 6.2
 Temperature 13.1

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

Ⓟ Bladder pump intake set @ 7 feet below Top of Casing.
~~Purge rate was approximately 100 ml/min. No Sheen was present on water,~~
 however, a slight petroleum odor was present during purging activities. Purge Rate was approximately 100 ml/min

GROUND WATER MONITORING LOG

BGES, INC.

Well Number: BG/VE

Time Arrived On Site: 700

Weather Conditions: Clear, 80°F

Date of Depth to Water Measurement: 6-25-13

Time of Depth to Water Measurement: 820

Top of Casing Elevation: 101.92
 Depth to Water (feet below TOC): 7.4
 Water Elevation: 94.52

Type of Sampling Equipment:
QED MP 50 Controller; 1.75" Bladder pump
YSI Multi-meter; Water level indicator; Battery

Total Depth of Well (feet below TOC): 14.0
 Depth to Water (feet below TOC): 7.4
 Water Column (feet): 6.6

Volume of well (gals) 4.31

=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: 1100
 Time of Sampling: 1310
 Volume purged 13 gallons

PURGE A MINIMUM OF THREE WELL VOLUMES

pH 5.97
 Conductivity 583
 ORP -134.8
 Temperature 12.0

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.4
 Conductivity 500
 ORP -78.1
 Temperature 9.0

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.09
 Conductivity 630
 ORP 13.6
 Temperature 12.1

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH 6.81
 Conductivity 518
 ORP -2.8
 Temperature 9.5

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

pH _____
 Conductivity _____
 ORP _____
 Dissolved Oxygen _____
 Temperature _____

Bladder pump intake set to 8.5 feet below Top of Casing.
Purge rate was approximately 400 ml/min. No Sheen was present,
however, a petroleum odor was noted during purging activities.

APPENDIX B
LABORATORY ANALYTICAL DATA



Laboratory Report of Analysis

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

Report Number: **1132689**

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 five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of 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 Heather 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.

Alaska Division Technical Director

Stephen Ede

2013.07.09

08:16:40 -08'00'

Heather Hall
Project Manager
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Date

Print Date: 07/05/2013 11:41:25AM

Case Narrative

SGS Client: **BGES Inc.**

SGS Project: **1132689**

Project Name/Site: **Six Robblees**

Project Contact: **Jayne Martin**

Refer to sample receipt form for information on sample condition.

MW15-0626 (1132689001) PS

AK102/103 - Unknown hydrocarbon with several peaks is present.

B6/VE-0626 (1132689002) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

MW1-0626 (1132689003) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

MW2-0626 (1132689004) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

MW14-0626 (1132689005) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

MW13-0626 (1132689006) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

MW20-0626 (1132689007) PS

AK102 - The pattern is consistent with a weathered gasoline.

AK103 - Unknown hydrocarbon with several peaks is present.

IB for HBN 1458199 (XFC/10942) (1156844) IB

AK102/103 - IB result is greater than one-half the LOQ, however less than the LOQ.

IB for HBN 1458418 (XFC/10946) (1157243) IB

AK1103 - IB result is greater than one-half the LOQ, however less than the LOQ.

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

Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
SW8260B				
1132689006	MW13-0626	VMS13594	4-Isopropyltoluene	SP
1132689007	MW20-0626	VMS13594	4-Isopropyltoluene	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

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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. If you have any questions regarding this report, or if we can be of any other assistance, please contact your SGS Project Manager at 907-562-2343. All work is provided under SGS general terms and conditions (<http://www.sgs.com/terms_and_conditions.htm>), unless other written agreements have been accepted by both parties.

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

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

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

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

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
MW15-0626	1132689001	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
B6/VE-0626	1132689002	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
MW1-0626	1132689003	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
MW2-0626	1132689004	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
MW14-0626	1132689005	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
MW13-0626	1132689006	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
MW20-0626	1132689007	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
TB1	1132689008	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)
TB2	1132689009	06/26/2013	06/27/2013	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
AK101	AK101/8021 Combo.
SW8021B	AK101/8021 Combo.
AK102	Diesel/Residual Range Organics Water
AK103	Diesel/Residual Range Organics Water
AK101	Gasoline Range Organics (W)
SW8260B	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **MW15-0626**

Lab Sample ID: 1132689001

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	2.01	mg/L
Residual Range Organics	1.19	mg/L
Benzene	517	ug/L
Ethylbenzene	56.7	ug/L
Gasoline Range Organics	2.25	mg/L
o-Xylene	87.1	ug/L
P & M -Xylene	130	ug/L
Toluene	213	ug/L

Client Sample ID: **B6/VE-0626**

Lab Sample ID: 1132689002

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	8.80	mg/L
Residual Range Organics	1.21	mg/L
Benzene	2750	ug/L
Ethylbenzene	721	ug/L
Gasoline Range Organics	25.8	mg/L
o-Xylene	1020	ug/L
P & M -Xylene	2640	ug/L
Toluene	4310	ug/L

Client Sample ID: **MW1-0626**

Lab Sample ID: 1132689003

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	29.1	mg/L
Residual Range Organics	1.32	mg/L
Benzene	2720	ug/L
Ethylbenzene	1110	ug/L
Gasoline Range Organics	40.6	mg/L
o-Xylene	2920	ug/L
P & M -Xylene	5080	ug/L
Toluene	6640	ug/L

Client Sample ID: **MW2-0626**

Lab Sample ID: 1132689004

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	105	mg/L
Residual Range Organics	5.96	mg/L
Benzene	11300	ug/L
Ethylbenzene	1760	ug/L
Gasoline Range Organics	94.7	mg/L
o-Xylene	3070	ug/L
P & M -Xylene	7050	ug/L
Toluene	22600	ug/L

Detectable Results Summary

Client Sample ID: **MW14-0626**

Lab Sample ID: 1132689005

Semivolatile Organic Fuels

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	56.4	mg/L
Residual Range Organics	9.52	mg/L
Benzene	17300	ug/L
Ethylbenzene	2240	ug/L
Gasoline Range Organics	140	mg/L
o-Xylene	4520	ug/L
P & M -Xylene	10800	ug/L
Toluene	25800	ug/L

Client Sample ID: **MW13-0626**

Lab Sample ID: 1132689006

Semivolatile Organic Fuels

Volatile Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	26.2	mg/L
Residual Range Organics	1.87	mg/L
Gasoline Range Organics	236	mg/L
1,2,4-Trimethylbenzene	1890	ug/L
1,3,5-Trimethylbenzene	625	ug/L
4-Isopropyltoluene	13.7	ug/L
Benzene	17000	ug/L
Ethylbenzene	4430	ug/L
Isopropylbenzene (Cumene)	168	ug/L
n-Propylbenzene	382	ug/L
Naphthalene	425	ug/L
o-Xylene	7500	ug/L
P & M -Xylene	16600	ug/L
Toluene	53200	ug/L
Xylenes (total)	24100	ug/L

Detectable Results Summary

Client Sample ID: **MW20-0626**

Lab Sample ID: 1132689007

Semivolatile Organic Fuels

Volatile Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Diesel Range Organics	31.1	mg/L
Residual Range Organics	1.90	mg/L
Gasoline Range Organics	228	mg/L
1,2,4-Trimethylbenzene	2140	ug/L
1,3,5-Trimethylbenzene	661	ug/L
4-Isopropyltoluene	13.6	ug/L
Benzene	18500	ug/L
Ethylbenzene	4900	ug/L
Isopropylbenzene (Cumene)	173	ug/L
n-Butylbenzene	74.6	ug/L
n-Propylbenzene	399	ug/L
Naphthalene	457	ug/L
o-Xylene	8350	ug/L
P & M -Xylene	18600	ug/L
tert-Butylbenzene	10.7	ug/L
Toluene	58300	ug/L
Xylenes (total)	26900	ug/L



Results of MW15-0626

Client Sample ID: **MW15-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689001
Lab Project ID: 1132689

Collection Date: 06/26/13 10:15
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	2.01		0.619	0.186	mg/L	1	06/29/13 20:12
Surrogates							
5a Androstane	66.4		50-150		%	1	06/29/13 20:12

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 06/29/13 20:12
Container ID: 1132689001-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	1.19		0.515	0.155	mg/L	1	06/29/13 20:12
Surrogates							
n-Triacontane-d62	76.2		50-150		%	1	06/29/13 20:12

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 20:12
Container ID: 1132689001-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of **MW15-0626**

Client Sample ID: **MW15-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689001
Lab Project ID: 1132689

Collection Date: 06/26/13 10:15
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	2.25		1.00	0.310	mg/L	10	07/02/13 18:21
Surrogates							
4-Bromofluorobenzene	89.6		50-150		%	10	07/02/13 18:21

Batch Information

Analytical Batch: VFC11487
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/02/13 18:21
Container ID: 1132689001-A

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 07/02/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	517		5.00	1.50	ug/L	10	07/02/13 18:21
Ethylbenzene	56.7		10.0	3.10	ug/L	10	07/02/13 18:21
o-Xylene	87.1		10.0	3.10	ug/L	10	07/02/13 18:21
P & M -Xylene	130		20.0	6.20	ug/L	10	07/02/13 18:21
Toluene	213		10.0	3.10	ug/L	10	07/02/13 18:21
Surrogates							
1,4-Difluorobenzene	97.5		77-115		%	10	07/02/13 18:21

Batch Information

Analytical Batch: VFC11487
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/02/13 18:21
Container ID: 1132689001-A

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 07/02/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of B6/VE-0626

Client Sample ID: **B6/VE-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689002
Lab Project ID: 1132689

Collection Date: 06/26/13 13:10
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	8.80		0.619	0.186	mg/L	1	06/29/13 20:21

Surrogates

5a Androstane	78.3		50-150		%	1	06/29/13 20:21
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Batch Information

Analytical Batch: XFC10942
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 06/29/13 20:21
Container ID: 1132689002-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	1.21		0.515	0.155	mg/L	1	06/29/13 20:21

Surrogates

n-Triacontane-d62	93.3		50-150		%	1	06/29/13 20:21
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Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 20:21
Container ID: 1132689002-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of B6/VE-0626

Client Sample ID: **B6/VE-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689002
Lab Project ID: 1132689

Collection Date: 06/26/13 13:10
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	25.8		2.00	0.620	mg/L	20	07/02/13 17:44

Surrogates

4-Bromofluorobenzene	100		50-150		%	20	07/02/13 17:44
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Batch Information

Analytical Batch: VFC11487
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/02/13 17:44
Container ID: 1132689002-A

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 07/02/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	2750		10.0	3.00	ug/L	20	07/02/13 17:44
Ethylbenzene	721		20.0	6.20	ug/L	20	07/02/13 17:44
o-Xylene	1020		20.0	6.20	ug/L	20	07/02/13 17:44
P & M -Xylene	2640		40.0	12.4	ug/L	20	07/02/13 17:44
Toluene	4310		20.0	6.20	ug/L	20	07/02/13 17:44

Surrogates

1,4-Difluorobenzene	99.6		77-115		%	20	07/02/13 17:44
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Batch Information

Analytical Batch: VFC11487
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/02/13 17:44
Container ID: 1132689002-A

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 07/02/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW1-0626

Client Sample ID: **MW1-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689003
Lab Project ID: 1132689

Collection Date: 06/26/13 14:30
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	29.1		3.09	0.928	mg/L	5	07/01/13 14:08

Surrogates

5a Androstane	93.7		50-150		%	5	07/01/13 14:08
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Batch Information

Analytical Batch: XFC10946
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 07/01/13 14:08
Container ID: 1132689003-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	1.32		0.515	0.155	mg/L	1	06/29/13 20:30

Surrogates

n-Triacontane-d62	101		50-150		%	1	06/29/13 20:30
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Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 20:30
Container ID: 1132689003-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW1-0626

Client Sample ID: **MW1-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689003
Lab Project ID: 1132689

Collection Date: 06/26/13 14:30
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	40.6		10.0	3.10	mg/L	100	07/03/13 16:26

Surrogates

4-Bromofluorobenzene	102		50-150		%	100	07/03/13 16:26
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Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/13 16:26
Container ID: 1132689003-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	2720		50.0	15.0	ug/L	100	07/03/13 16:26
Ethylbenzene	1110		100	31.0	ug/L	100	07/03/13 16:26
o-Xylene	2920		100	31.0	ug/L	100	07/03/13 16:26
P & M -Xylene	5080		200	62.0	ug/L	100	07/03/13 16:26
Toluene	6640		100	31.0	ug/L	100	07/03/13 16:26

Surrogates

1,4-Difluorobenzene	96.8		77-115		%	100	07/03/13 16:26
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Batch Information

Analytical Batch: VFC11490
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/03/13 16:26
Container ID: 1132689003-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW2-0626

Client Sample ID: **MW2-0626**
 Client Project ID: **Six Robblees**
 Lab Sample ID: 1132689004
 Lab Project ID: 1132689

Collection Date: 06/26/13 14:30
 Received Date: 06/27/13 10:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	105		6.19	1.86	mg/L	10	07/01/13 14:17
Surrogates							
5a Androstane	86.5		50-150		%	10	07/01/13 14:17

Batch Information

Analytical Batch: XFC10946
 Analytical Method: AK102
 Analyst: MCM
 Analytical Date/Time: 07/01/13 14:17
 Container ID: 1132689004-D

Prep Batch: XXX29283
 Prep Method: SW3520C
 Prep Date/Time: 06/28/13 11:10
 Prep Initial Wt./Vol.: 970 mL
 Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	5.96		0.515	0.155	mg/L	1	06/29/13 20:40
Surrogates							
n-Triacontane-d62	106		50-150		%	1	06/29/13 20:40

Batch Information

Analytical Batch: XFC10942
 Analytical Method: AK103
 Analyst: MCM
 Analytical Date/Time: 06/29/13 20:40
 Container ID: 1132689004-D

Prep Batch: XXX29283
 Prep Method: SW3520C
 Prep Date/Time: 06/28/13 11:10
 Prep Initial Wt./Vol.: 970 mL
 Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW2-0626

Client Sample ID: **MW2-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689004
Lab Project ID: 1132689

Collection Date: 06/26/13 14:30
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	94.7		10.0	3.10	mg/L	100	07/03/13 16:45

Surrogates

4-Bromofluorobenzene	100		50-150		%	100	07/03/13 16:45
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Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/13 16:45
Container ID: 1132689004-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	11300		50.0	15.0	ug/L	100	07/03/13 16:45
Ethylbenzene	1760		100	31.0	ug/L	100	07/03/13 16:45
o-Xylene	3070		100	31.0	ug/L	100	07/03/13 16:45
P & M -Xylene	7050		200	62.0	ug/L	100	07/03/13 16:45
Toluene	22600		100	31.0	ug/L	100	07/03/13 16:45

Surrogates

1,4-Difluorobenzene	97.6		77-115		%	100	07/03/13 16:45
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Batch Information

Analytical Batch: VFC11490
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/03/13 16:45
Container ID: 1132689004-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW14-0626

Client Sample ID: **MW14-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689005
Lab Project ID: 1132689

Collection Date: 06/26/13 18:30
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	56.4		2.53	0.758	mg/L	4	06/29/13 20:49

Surrogates

5a Androstane	70.1		50-150		%	4	06/29/13 20:49
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Batch Information

Analytical Batch: XFC10942
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 06/29/13 20:49
Container ID: 1132689005-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 950 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	9.52		2.11	0.632	mg/L	4	06/29/13 20:49

Surrogates

n-Triacontane-d62	107		50-150		%	4	06/29/13 20:49
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Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 20:49
Container ID: 1132689005-D

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 950 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW14-0626

Client Sample ID: **MW14-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689005
Lab Project ID: 1132689

Collection Date: 06/26/13 18:30
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	140		100	31.0	mg/L	1000	07/03/13 17:22
Surrogates							
4-Bromofluorobenzene	99.4		50-150		%	1000	07/03/13 17:22

Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/13 17:22
Container ID: 1132689005-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene	17300		500	150	ug/L	1000	07/03/13 17:22
Ethylbenzene	2240		1000	310	ug/L	1000	07/03/13 17:22
o-Xylene	4520		1000	310	ug/L	1000	07/03/13 17:22
P & M -Xylene	10800		2000	620	ug/L	1000	07/03/13 17:22
Toluene	25800		1000	310	ug/L	1000	07/03/13 17:22
Surrogates							
1,4-Difluorobenzene	94		77-115		%	1000	07/03/13 17:22

Batch Information

Analytical Batch: VFC11490
Analytical Method: SW8021B
Analyst: ST
Analytical Date/Time: 07/03/13 17:22
Container ID: 1132689005-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW13-0626

Client Sample ID: **MW13-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689006
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	26.2		3.00	0.900	mg/L	5	07/01/13 14:27
Surrogates							
5a Androstane	77.5		50-150		%	5	07/01/13 14:27

Batch Information

Analytical Batch: XFC10946
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 07/01/13 14:27
Container ID: 1132689006-G

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	1.87		0.500	0.150	mg/L	1	06/29/13 20:59
Surrogates							
n-Triacontane-d62	107		50-150		%	1	06/29/13 20:59

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 20:59
Container ID: 1132689006-G

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW13-0626

Client Sample ID: **MW13-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689006
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	236		100	31.0	mg/L	1000	07/03/13 17:41
Surrogates							
4-Bromofluorobenzene	103		50-150		%	1000	07/03/13 17:41

Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/13 17:41
Container ID: 1132689006-C

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW13-0626

Client Sample ID: MW13-0626
Client Project ID: Six Robblees
Lab Sample ID: 1132689006
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result, Qual, LOQ/CL, DL, Units, DF, Date Analyzed. Lists various chemical compounds and their detection results.

Print Date: 07/05/2013 11:41:28AM



Results of **MW13-0626**

Client Sample ID: **MW13-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689006
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Date Analyzed
Ethylbenzene	4430		1000	310	ug/L	1000	07/01/13 18:17
Hexachlorobutadiene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Isopropylbenzene (Cumene)	168		10.0	3.10	ug/L	10	07/01/13 16:33
Methyl-t-butyl ether	50.0	U	50.0	15.0	ug/L	10	07/01/13 16:33
Methylene chloride	50.0	U	50.0	10.0	ug/L	10	07/01/13 16:33
n-Butylbenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
n-Propylbenzene	382		10.0	3.10	ug/L	10	07/01/13 16:33
Naphthalene	425		20.0	6.20	ug/L	10	07/01/13 16:33
o-Xylene	7500		1000	310	ug/L	1000	07/01/13 18:17
P & M -Xylene	16600		2000	620	ug/L	1000	07/01/13 18:17
sec-Butylbenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Styrene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
tert-Butylbenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Tetrachloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Toluene	53200		1000	310	ug/L	1000	07/01/13 18:17
trans-1,2-Dichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
trans-1,3-Dichloropropene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Trichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Trichlorofluoromethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Vinyl chloride	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:33
Xylenes (total)	24100		3000	940	ug/L	1000	07/01/13 18:17

Surrogates

1,2-Dichloroethane-D4	86.6		70-120		%	10	07/01/13 16:33
4-Bromofluorobenzene	101		75-120		%	10	07/01/13 16:33
Toluene-d8	101		85-120		%	10	07/01/13 16:33

Batch Information

Analytical Batch: VMS13594
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 07/01/13 16:33
Container ID: 1132689006-D

Prep Batch: VXX24879
Prep Method: SW5030B
Prep Date/Time: 07/01/13 11:24
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW20-0626

Client Sample ID: **MW20-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689007
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Diesel Range Organics	31.1		3.09	0.928	mg/L	5	07/01/13 14:36
Surrogates							
5a Androstane	89.2		50-150		%	5	07/01/13 14:36

Batch Information

Analytical Batch: XFC10946
Analytical Method: AK102
Analyst: MCM
Analytical Date/Time: 07/01/13 14:36
Container ID: 1132689007-G

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Residual Range Organics	1.90		0.515	0.155	mg/L	1	06/29/13 21:08
Surrogates							
n-Triacontane-d62	103		50-150		%	1	06/29/13 21:08

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Analyst: MCM
Analytical Date/Time: 06/29/13 21:08
Container ID: 1132689007-G

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 06/28/13 11:10
Prep Initial Wt./Vol.: 970 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW20-0626

Client Sample ID: **MW20-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689007
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
Gasoline Range Organics	228		100	31.0	mg/L	1000	07/03/13 17:59
Surrogates							
4-Bromofluorobenzene	102		50-150		%	1000	07/03/13 17:59

Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/13 17:59
Container ID: 1132689007-A

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 07/03/13 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of MW20-0626

Client Sample ID: **MW20-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689007
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
1,1,1-Trichloroethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,1,2,2-Tetrachloroethane	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
1,1,2-Trichloroethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,1-Dichloroethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,1-Dichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,1-Dichloropropene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2,3-Trichlorobenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2,3-Trichloropropane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2,4-Trichlorobenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2,4-Trimethylbenzene	2140		1000	310	ug/L	1000	07/01/13 18:34
1,2-Dibromo-3-chloropropane	20.0	U	20.0	6.20	ug/L	10	07/01/13 16:50
1,2-Dibromoethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2-Dichlorobenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,2-Dichloroethane	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
1,2-Dichloropropane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,3,5-Trimethylbenzene	661		10.0	3.10	ug/L	10	07/01/13 16:50
1,3-Dichlorobenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
1,3-Dichloropropane	4.00	U	4.00	1.20	ug/L	10	07/01/13 16:50
1,4-Dichlorobenzene	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
2,2-Dichloropropane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
2-Butanone (MEK)	100	U	100	31.0	ug/L	10	07/01/13 16:50
2-Chlorotoluene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
2-Hexanone	100	U	100	31.0	ug/L	10	07/01/13 16:50
4-Chlorotoluene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
4-Isopropyltoluene	13.6		10.0	3.10	ug/L	10	07/01/13 16:50
4-Methyl-2-pentanone (MIBK)	100	U	100	31.0	ug/L	10	07/01/13 16:50
Benzene	18500		400	120	ug/L	1000	07/01/13 18:34
Bromobenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Bromochloromethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Bromodichloromethane	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
Bromoform	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Bromomethane	30.0	U	30.0	9.40	ug/L	10	07/01/13 16:50
Carbon disulfide	20.0	U	20.0	6.20	ug/L	10	07/01/13 16:50
Carbon tetrachloride	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Chlorobenzene	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
Chloroethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Chloroform	10.0	U	10.0	3.00	ug/L	10	07/01/13 16:50
Chloromethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
cis-1,2-Dichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
cis-1,3-Dichloropropene	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
Dibromochloromethane	5.00	U	5.00	1.50	ug/L	10	07/01/13 16:50
Dibromomethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Dichlorodifluoromethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50

Print Date: 07/05/2013 11:41:28AM



Results of **MW20-0626**

Client Sample ID: **MW20-0626**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689007
Lab Project ID: 1132689

Collection Date: 06/26/13 19:45
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Date Analyzed
Ethylbenzene	4900		1000	310	ug/L	1000	07/01/13 18:34
Hexachlorobutadiene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Isopropylbenzene (Cumene)	173		10.0	3.10	ug/L	10	07/01/13 16:50
Methyl-t-butyl ether	50.0	U	50.0	15.0	ug/L	10	07/01/13 16:50
Methylene chloride	50.0	U	50.0	10.0	ug/L	10	07/01/13 16:50
n-Butylbenzene	74.6		10.0	3.10	ug/L	10	07/01/13 16:50
n-Propylbenzene	399		10.0	3.10	ug/L	10	07/01/13 16:50
Naphthalene	457		20.0	6.20	ug/L	10	07/01/13 16:50
o-Xylene	8350		1000	310	ug/L	1000	07/01/13 18:34
P & M -Xylene	18600		2000	620	ug/L	1000	07/01/13 18:34
sec-Butylbenzene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Styrene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
tert-Butylbenzene	10.7		10.0	3.10	ug/L	10	07/01/13 16:50
Tetrachloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Toluene	58300		1000	310	ug/L	1000	07/01/13 18:34
trans-1,2-Dichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
trans-1,3-Dichloropropene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Trichloroethene	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Trichlorofluoromethane	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Vinyl chloride	10.0	U	10.0	3.10	ug/L	10	07/01/13 16:50
Xylenes (total)	26900		3000	940	ug/L	1000	07/01/13 18:34

Surrogates

1,2-Dichloroethane-D4	85.7		70-120		%	10	07/01/13 16:50
4-Bromofluorobenzene	103		75-120		%	10	07/01/13 16:50
Toluene-d8	102		85-120		%	10	07/01/13 16:50

Batch Information

Analytical Batch: VMS13594
Analytical Method: SW8260B
Analyst: NRB
Analytical Date/Time: 07/01/13 16:50
Container ID: 1132689007-C

Prep Batch: VXX24879
Prep Method: SW5030B
Prep Date/Time: 07/01/13 11:24
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of TB1

Client Sample ID: **TB1**
 Client Project ID: **Six Robblees**
 Lab Sample ID: 1132689008
 Lab Project ID: 1132689

Collection Date: 06/26/13 10:15
 Received Date: 06/27/13 10:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):

Results by Volatile Fuels

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Date Analyzed
Gasoline Range Organics	0.100	U	0.100	0.0310	mg/L	1	07/02/13 16:29

Surrogates

4-Bromofluorobenzene	92.3		50-150		%	1	07/02/13 16:29
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Batch Information

Analytical Batch: VFC11487
 Analytical Method: AK101
 Analyst: ST
 Analytical Date/Time: 07/02/13 16:29
 Container ID: 1132689008-A

Prep Batch: VXX24884
 Prep Method: SW5030B
 Prep Date/Time: 07/02/13 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Date Analyzed
Benzene	0.500	U	0.500	0.150	ug/L	1	07/02/13 16:29
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1	07/02/13 16:29
o-Xylene	1.00	U	1.00	0.310	ug/L	1	07/02/13 16:29
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1	07/02/13 16:29
Toluene	1.00	U	1.00	0.310	ug/L	1	07/02/13 16:29

Surrogates

1,4-Difluorobenzene	97.3		77-115		%	1	07/02/13 16:29
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Batch Information

Analytical Batch: VFC11487
 Analytical Method: SW8021B
 Analyst: ST
 Analytical Date/Time: 07/02/13 16:29
 Container ID: 1132689008-A

Prep Batch: VXX24884
 Prep Method: SW5030B
 Prep Date/Time: 07/02/13 08:00
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Results of TB2

Client Sample ID: **TB2**
Client Project ID: **Six Robblees**
Lab Sample ID: 1132689009
Lab Project ID: 1132689

Collection Date: 06/26/13 10:15
Received Date: 06/27/13 10:24
Matrix: Water (Surface, Eff., Ground)
Solids (%):

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1,1,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
1,1,1-Trichloroethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,1,2,2-Tetrachloroethane	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
1,1,2-Trichloroethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,1-Dichloroethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,1-Dichloroethene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,1-Dichloropropene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2,3-Trichlorobenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2,3-Trichloropropane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2,4-Trichlorobenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2,4-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2-Dibromo-3-chloropropane	2.00	U	2.00	0.620	ug/L	1	06/30/13 10:36
1,2-Dibromoethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2-Dichlorobenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,2-Dichloroethane	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
1,2-Dichloropropane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,3,5-Trimethylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,3-Dichlorobenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
1,3-Dichloropropane	0.400	U	0.400	0.120	ug/L	1	06/30/13 10:36
1,4-Dichlorobenzene	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
2,2-Dichloropropane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
2-Butanone (MEK)	10.0	U	10.0	3.10	ug/L	1	06/30/13 10:36
2-Chlorotoluene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
2-Hexanone	10.0	U	10.0	3.10	ug/L	1	06/30/13 10:36
4-Chlorotoluene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
4-Isopropyltoluene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
4-Methyl-2-pentanone (MIBK)	10.0	U	10.0	3.10	ug/L	1	06/30/13 10:36
Benzene	0.400	U	0.400	0.120	ug/L	1	06/30/13 10:36
Bromobenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Bromochloromethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Bromodichloromethane	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
Bromoform	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Bromomethane	3.00	U	3.00	0.940	ug/L	1	06/30/13 10:36
Carbon disulfide	2.00	U	2.00	0.620	ug/L	1	06/30/13 10:36
Carbon tetrachloride	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Chlorobenzene	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
Chloroethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Chloroform	1.00	U	1.00	0.300	ug/L	1	06/30/13 10:36
Chloromethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
cis-1,2-Dichloroethene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
cis-1,3-Dichloropropene	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
Dibromochloromethane	0.500	U	0.500	0.150	ug/L	1	06/30/13 10:36
Dibromomethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Dichlorodifluoromethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36

Print Date: 07/05/2013 11:41:28AM



Results of TB2

Client Sample ID: **TB2**
 Client Project ID: **Six Robblees**
 Lab Sample ID: 1132689009
 Lab Project ID: 1132689

Collection Date: 06/26/13 10:15
 Received Date: 06/27/13 10:24
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):

Results by Volatile GC/MS

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Date Analyzed
Ethylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Hexachlorobutadiene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Isopropylbenzene (Cumene)	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Methyl-t-butyl ether	5.00	U	5.00	1.50	ug/L	1	06/30/13 10:36
Methylene chloride	5.00	U	5.00	1.00	ug/L	1	06/30/13 10:36
n-Butylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
n-Propylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Naphthalene	2.00	U	2.00	0.620	ug/L	1	06/30/13 10:36
o-Xylene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
P & M -Xylene	2.00	U	2.00	0.620	ug/L	1	06/30/13 10:36
sec-Butylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Styrene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
tert-Butylbenzene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Tetrachloroethene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Toluene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
trans-1,2-Dichloroethene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
trans-1,3-Dichloropropene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Trichloroethene	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Trichlorofluoromethane	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Vinyl chloride	1.00	U	1.00	0.310	ug/L	1	06/30/13 10:36
Xylenes (total)	3.00	U	3.00	0.940	ug/L	1	06/30/13 10:36

Surrogates

1,2-Dichloroethane-D4	108		70-120		%	1	06/30/13 10:36
4-Bromofluorobenzene	103		75-120		%	1	06/30/13 10:36
Toluene-d8	98.3		85-120		%	1	06/30/13 10:36

Batch Information

Analytical Batch: VMS13592
 Analytical Method: SW8260B
 Analyst: SCL
 Analytical Date/Time: 06/30/13 10:36
 Container ID: 1132689009-A

Prep Batch: VXX24876
 Prep Method: SW5030B
 Prep Date/Time: 06/30/13 06:01
 Prep Initial Wt./Vol.: 5 mL
 Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:28AM



Method Blank

Blank ID: MB for HBN 1458182 [VXX/24876]

Blank Lab ID: 1156462

QC for Samples:

1132689009

Matrix: Water (Surface, Eff., Ground)

Results by SW8260B

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

Print Date: 07/05/2013 11:41:30AM



Method Blank

Blank ID: MB for HBN 1458182 [VXX/24876]

Blank Lab ID: 1156462

QC for Samples:

1132689009

Matrix: Water (Surface, Eff., Ground)

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.620U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.620U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.300U	0.500	0.150	ug/L
Dibromochloromethane	0.300U	0.500	0.150	ug/L
Dibromomethane	0.620U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.620U	1.00	0.310	ug/L
Ethylbenzene	0.620U	1.00	0.310	ug/L
Hexachlorobutadiene	0.620U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.620U	1.00	0.310	ug/L
Methylene chloride	2.00U	5.00	1.00	ug/L
Methyl-t-butyl ether	3.00U	5.00	1.50	ug/L
Naphthalene	1.24U	2.00	0.620	ug/L
n-Butylbenzene	0.620U	1.00	0.310	ug/L
n-Propylbenzene	0.620U	1.00	0.310	ug/L
o-Xylene	0.620U	1.00	0.310	ug/L
P & M -Xylene	1.24U	2.00	0.620	ug/L
sec-Butylbenzene	0.620U	1.00	0.310	ug/L
Styrene	0.620U	1.00	0.310	ug/L
tert-Butylbenzene	0.620U	1.00	0.310	ug/L
Tetrachloroethene	0.620U	1.00	0.310	ug/L
Toluene	0.620U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.620U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.620U	1.00	0.310	ug/L
Trichloroethene	0.620U	1.00	0.310	ug/L
Trichlorofluoromethane	0.620U	1.00	0.310	ug/L
Vinyl chloride	0.620U	1.00	0.310	ug/L
Xylenes (total)	1.88U	3.00	0.940	ug/L
Surrogates				
1,2-Dichloroethane-D4	106	70-120		%
4-Bromofluorobenzene	104	75-120		%
Toluene-d8	99.1	85-120		%

Print Date: 07/05/2013 11:41:30AM



Method Blank

Blank ID: MB for HBN 1458182 [VXX/24876]
Blank Lab ID: 1156462

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1132689009

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS13592
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: SCL
Analytical Date/Time: 6/30/2013 6:52:00AM

Prep Batch: VXX24876
Prep Method: SW5030B
Prep Date/Time: 6/30/2013 6:01:41AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:30AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24876]
 Blank Spike Lab ID: 1156463
 Date Analyzed: 06/30/2013 07:09

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24876]
 Spike Duplicate Lab ID: 1156464
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689009

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	31.8	106	30	32.5	108	(80-130)	2.40	(< 20)
1,1,1-Trichloroethane	30	31.3	104	30	32.2	107	(65-130)	3.00	(< 20)
1,1,2,2-Tetrachloroethane	30	30.6	102	30	31.9	106	(65-130)	4.30	(< 20)
1,1,2-Trichloroethane	30	29.4	98	30	30.1	100	(75-125)	2.30	(< 20)
1,1-Dichloroethane	30	30.3	101	30	31.0	103	(70-135)	2.40	(< 20)
1,1-Dichloroethene	30	30.4	101	30	31.3	104	(70-130)	2.80	(< 20)
1,1-Dichloropropene	30	31.5	105	30	32.6	109	(75-130)	3.30	(< 20)
1,2,3-Trichlorobenzene	30	29.8	100	30	33.1	110	(55-140)	10.20	(< 20)
1,2,3-Trichloropropane	30	30.4	101	30	31.6	105	(75-125)	4.10	(< 20)
1,2,4-Trichlorobenzene	30	29.6	99	30	32.8	109	(65-135)	10.40	(< 20)
1,2,4-Trimethylbenzene	30	29.6	99	30	32.1	107	(75-130)	7.80	(< 20)
1,2-Dibromo-3-chloropropane	30	28.7	96	30	29.9	100	(50-130)	4.20	(< 20)
1,2-Dibromoethane	30	31.1	104	30	31.7	106	(80-120)	1.70	(< 20)
1,2-Dichlorobenzene	30	28.9	96	30	30.7	102	(70-120)	6.20	(< 20)
1,2-Dichloroethane	30	28.9	96	30	29.9	100	(70-130)	3.40	(< 20)
1,2-Dichloropropane	30	30.1	100	30	31.2	104	(75-125)	3.80	(< 20)
1,3,5-Trimethylbenzene	30	28.6	95	30	30.5	102	(75-130)	6.30	(< 20)
1,3-Dichlorobenzene	30	29.1	97	30	31.1	104	(75-125)	6.70	(< 20)
1,3-Dichloropropane	30	30.5	102	30	31.2	104	(75-125)	2.30	(< 20)
1,4-Dichlorobenzene	30	29.2	97	30	31.3	104	(75-125)	6.90	(< 20)
2,2-Dichloropropane	30	33.5	112	30	34.3	114	(70-135)	2.60	(< 20)
2-Butanone (MEK)	90	89.3	99	90	91.9	102	(30-150)	2.90	(< 20)
2-Chlorotoluene	30	29.2	97	30	31.4	105	(75-125)	7.10	(< 20)
2-Hexanone	90	92.1	102	90	94.3	105	(55-130)	2.40	(< 20)
4-Chlorotoluene	30	29.3	98	30	33.1	110	(75-130)	12.10	(< 20)
4-Isopropyltoluene	30	27.5	92	30	30.0	100	(75-130)	8.60	(< 20)
4-Methyl-2-pentanone (MIBK)	90	92.6	103	90	96.7	107	(60-135)	4.30	(< 20)
Benzene	30	30.3	101	30	31.4	105	(80-120)	3.60	(< 20)
Bromobenzene	30	29.4	98	30	31.1	104	(75-125)	5.80	(< 20)
Bromochloromethane	30	29.7	99	30	30.9	103	(65-130)	4.00	(< 20)
Bromodichloromethane	30	30.0	100	30	31.2	104	(75-120)	3.90	(< 20)
Bromoform	30	32.9	110	30	33.7	112	(70-130)	2.40	(< 20)
Bromomethane	30	29.2	97	30	31.0	103	(30-145)	6.10	(< 20)

Print Date: 07/05/2013 11:41:31AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24876]
 Blank Spike Lab ID: 1156463
 Date Analyzed: 06/30/2013 07:09

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24876]
 Spike Duplicate Lab ID: 1156464
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689009

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon disulfide	45	45.2	100	45	46.6	104	(35-160)	3.00	(< 20)
Carbon tetrachloride	30	32.3	108	30	33.1	110	(65-140)	2.40	(< 20)
Chlorobenzene	30	30.4	101	30	31.3	104	(80-120)	3.10	(< 20)
Chloroethane	30	28.4	95	30	29.1	97	(60-135)	2.40	(< 20)
Chloroform	30	27.5	92	30	28.5	95	(65-135)	3.70	(< 20)
Chloromethane	30	24.9	83	30	26.3	88	(40-125)	5.60	(< 20)
cis-1,2-Dichloroethene	30	29.4	98	30	30.6	102	(70-125)	3.70	(< 20)
cis-1,3-Dichloropropene	30	31.4	105	30	32.6	109	(70-130)	3.80	(< 20)
Dibromochloromethane	30	31.6	105	30	32.4	108	(60-135)	2.40	(< 20)
Dibromomethane	30	28.1	94	30	29.1	97	(75-125)	3.60	(< 20)
Dichlorodifluoromethane	30	30.0	100	30	30.4	101	(30-155)	1.30	(< 20)
Ethylbenzene	30	31.3	104	30	32.2	107	(75-125)	3.10	(< 20)
Hexachlorobutadiene	30	30.3	101	30	33.0	110	(50-140)	8.70	(< 20)
Isopropylbenzene (Cumene)	30	31.2	104	30	32.6	109	(75-125)	4.50	(< 20)
Methyl-t-butyl ether	45	46.0	102	45	47.4	105	(65-125)	2.90	(< 20)
Methylene chloride	30	29.3	98	30	30.1	100	(55-140)	2.90	(< 20)
n-Butylbenzene	30	28.3	94	30	31.3	104	(70-135)	10.30	(< 20)
n-Propylbenzene	30	29.6	99	30	31.5	105	(70-130)	6.30	(< 20)
Naphthalene	30	30.4	101	30	32.6	109	(55-140)	6.80	(< 20)
o-Xylene	30	30.7	102	30	31.7	106	(80-120)	3.00	(< 20)
P & M -Xylene	60	62.4	104	60	64.2	107	(75-130)	2.90	(< 20)
sec-Butylbenzene	30	29.5	98	30	32.3	108	(70-125)	8.90	(< 20)
Styrene	30	31.8	106	30	32.9	110	(65-135)	3.40	(< 20)
tert-Butylbenzene	30	31.1	104	30	33.6	112	(70-130)	7.90	(< 20)
Tetrachloroethene	30	30.3	101	30	30.7	102	(45-150)	1.50	(< 20)
Toluene	30	30.8	103	30	31.6	105	(75-120)	2.80	(< 20)
trans-1,2-Dichloroethene	30	30.3	101	30	31.5	105	(60-140)	4.00	(< 20)
trans-1,3-Dichloropropene	30	32.2	107	30	33.1	110	(55-140)	2.80	(< 20)
Trichloroethene	30	30.9	103	30	32.1	107	(70-125)	3.60	(< 20)
Trichlorofluoromethane	30	30.2	101	30	31.0	103	(60-145)	2.80	(< 20)
Vinyl chloride	30	28.7	96	30	29.9	100	(50-145)	4.00	(< 20)
Xylenes (total)	90	93.1	103	90	95.9	107	(80-120)	2.90	(< 20)

Surrogates

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24876]
 Blank Spike Lab ID: 1156463
 Date Analyzed: 06/30/2013 07:09

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24876]
 Spike Duplicate Lab ID: 1156464
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689009

Results by SW8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,2-Dichloroethane-D4	30	96	96	30	95.5	96	(70-120)	0.52	
4-Bromofluorobenzene	30	100	100	30	102	102	(75-120)	1.80	
Toluene-d8	30	101	101	30	100	100	(85-120)	1.10	

Batch Information

Analytical Batch: **VMS13592**
 Analytical Method: **SW8260B**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **SCL**

Prep Batch: **VXX24876**
 Prep Method: **SW5030B**
 Prep Date/Time: **06/30/2013 06:01**
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL



Method Blank

Blank ID: MB for HBN 1458290 [VXX/24879]

Blank Lab ID: 1156756

QC for Samples:

1132689006, 1132689007

Matrix: Water (Surface, Eff., Ground)

Results by SW8260B

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

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Method Blank

Blank ID: MB for HBN 1458290 [VXX/24879]

Blank Lab ID: 1156756

QC for Samples:

1132689006, 1132689007

Matrix: Water (Surface, Eff., Ground)

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.620U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.620U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.300U	0.500	0.150	ug/L
Dibromochloromethane	0.300U	0.500	0.150	ug/L
Dibromomethane	0.620U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.620U	1.00	0.310	ug/L
Ethylbenzene	0.620U	1.00	0.310	ug/L
Hexachlorobutadiene	0.620U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.620U	1.00	0.310	ug/L
Methylene chloride	2.00U	5.00	1.00	ug/L
Methyl-t-butyl ether	3.00U	5.00	1.50	ug/L
Naphthalene	1.24U	2.00	0.620	ug/L
n-Butylbenzene	0.620U	1.00	0.310	ug/L
n-Propylbenzene	0.620U	1.00	0.310	ug/L
o-Xylene	0.620U	1.00	0.310	ug/L
P & M -Xylene	1.24U	2.00	0.620	ug/L
sec-Butylbenzene	0.620U	1.00	0.310	ug/L
Styrene	0.620U	1.00	0.310	ug/L
tert-Butylbenzene	0.620U	1.00	0.310	ug/L
Tetrachloroethene	0.620U	1.00	0.310	ug/L
Toluene	0.620U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.620U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.620U	1.00	0.310	ug/L
Trichloroethene	0.620U	1.00	0.310	ug/L
Trichlorofluoromethane	0.620U	1.00	0.310	ug/L
Vinyl chloride	0.620U	1.00	0.310	ug/L
Xylenes (total)	1.88U	3.00	0.940	ug/L
Surrogates				
1,2-Dichloroethane-D4	108	70-120		%
4-Bromofluorobenzene	102	75-120		%
Toluene-d8	98.6	85-120		%

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Method Blank

Blank ID: MB for HBN 1458290 [VXX/24879]
Blank Lab ID: 1156756

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1132689006, 1132689007

Results by SW8260B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS13594
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: NRB
Analytical Date/Time: 7/1/2013 12:16:00PM

Prep Batch: VXX24879
Prep Method: SW5030B
Prep Date/Time: 7/1/2013 11:24:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:32AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24879]
 Blank Spike Lab ID: 1156757
 Date Analyzed: 07/01/2013 12:33

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24879]
 Spike Duplicate Lab ID: 1156758
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689006, 1132689007

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.0	110	30	31.8	106	(80-130)	3.60	(< 20)
1,1,1-Trichloroethane	30	34.0	113	30	32.5	108	(65-130)	4.40	(< 20)
1,1,2,2-Tetrachloroethane	30	30.5	102	30	31.3	104	(65-130)	2.80	(< 20)
1,1,2-Trichloroethane	30	30.5	102	30	29.7	99	(75-125)	2.70	(< 20)
1,1-Dichloroethane	30	32.7	109	30	31.4	105	(70-135)	4.00	(< 20)
1,1-Dichloroethene	30	33.0	110	30	31.8	106	(70-130)	3.70	(< 20)
1,1-Dichloropropene	30	34.1	114	30	32.6	109	(75-130)	4.30	(< 20)
1,2,3-Trichlorobenzene	30	30.8	103	30	32.1	107	(55-140)	4.30	(< 20)
1,2,3-Trichloropropane	30	30.2	101	30	31.1	104	(75-125)	2.90	(< 20)
1,2,4-Trichlorobenzene	30	30.4	101	30	31.5	105	(65-135)	3.60	(< 20)
1,2,4-Trimethylbenzene	30	30.7	102	30	30.7	102	(75-130)	0.20	(< 20)
1,2-Dibromo-3-chloropropane	30	27.4	91	30	29.0	97	(50-130)	5.90	(< 20)
1,2-Dibromoethane	30	31.8	106	30	31.3	104	(80-120)	1.40	(< 20)
1,2-Dichlorobenzene	30	29.9	100	30	29.8	99	(70-120)	0.37	(< 20)
1,2-Dichloroethane	30	30.6	102	30	29.6	99	(70-130)	3.10	(< 20)
1,2-Dichloropropane	30	32.0	107	30	31.0	103	(75-125)	3.10	(< 20)
1,3,5-Trimethylbenzene	30	29.5	98	30	29.6	99	(75-130)	0.51	(< 20)
1,3-Dichlorobenzene	30	29.7	99	30	29.9	100	(75-125)	0.37	(< 20)
1,3-Dichloropropane	30	31.5	105	30	30.6	102	(75-125)	2.60	(< 20)
1,4-Dichlorobenzene	30	30.3	101	30	30.1	100	(75-125)	0.56	(< 20)
2,2-Dichloropropane	30	35.9	120	30	34.1	114	(70-135)	5.10	(< 20)
2-Butanone (MEK)	90	88.0	98	90	94.0	104	(30-150)	6.50	(< 20)
2-Chlorotoluene	30	30.0	100	30	29.9	100	(75-125)	0.40	(< 20)
2-Hexanone	90	89.7	100	90	95.0	106	(55-130)	5.80	(< 20)
4-Chlorotoluene	30	30.1	100	30	30.0	100	(75-130)	0.03	(< 20)
4-Isopropyltoluene	30	28.6	95	30	29.3	98	(75-130)	2.40	(< 20)
4-Methyl-2-pentanone (MIBK)	90	93.0	103	90	97.3	108	(60-135)	4.50	(< 20)
Benzene	30	32.6	109	30	31.3	104	(80-120)	3.90	(< 20)
Bromobenzene	30	30.1	100	30	29.8	99	(75-125)	1.20	(< 20)
Bromochloromethane	30	31.8	106	30	30.6	102	(65-130)	3.70	(< 20)
Bromodichloromethane	30	31.9	106	30	30.8	103	(75-120)	3.60	(< 20)
Bromoform	30	32.7	109	30	32.7	109	(70-130)	0.09	(< 20)
Bromomethane	30	30.8	103	30	29.9	100	(30-145)	2.70	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24879]
 Blank Spike Lab ID: 1156757
 Date Analyzed: 07/01/2013 12:33

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24879]
 Spike Duplicate Lab ID: 1156758
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689006, 1132689007

Results by SW8260B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon disulfide	45	49.2	109	45	47.6	106	(35-160)	3.40	(< 20)
Carbon tetrachloride	30	35.3	118	30	33.5	112	(65-140)	5.10	(< 20)
Chlorobenzene	30	31.7	106	30	30.6	102	(80-120)	3.40	(< 20)
Chloroethane	30	30.7	102	30	29.2	98	(60-135)	4.90	(< 20)
Chloroform	30	29.7	99	30	28.4	95	(65-135)	4.40	(< 20)
Chloromethane	30	24.4	81	30	25.2	84	(40-125)	3.00	(< 20)
cis-1,2-Dichloroethene	30	31.6	105	30	30.4	101	(70-125)	3.80	(< 20)
cis-1,3-Dichloropropene	30	32.6	109	30	31.8	106	(70-130)	2.40	(< 20)
Dibromochloromethane	30	32.6	109	30	31.7	106	(60-135)	2.60	(< 20)
Dibromomethane	30	29.8	100	30	29.0	97	(75-125)	2.80	(< 20)
Dichlorodifluoromethane	30	32.5	108	30	31.0	103	(30-155)	4.70	(< 20)
Ethylbenzene	30	33.0	110	30	31.8	106	(75-125)	3.70	(< 20)
Hexachlorobutadiene	30	31.5	105	30	32.6	109	(50-140)	3.40	(< 20)
Isopropylbenzene (Cumene)	30	32.9	110	30	32.1	107	(75-125)	2.50	(< 20)
Methyl-t-butyl ether	45	47.6	106	45	46.7	104	(65-125)	2.00	(< 20)
Methylene chloride	30	31.9	106	30	30.8	103	(55-140)	3.30	(< 20)
n-Butylbenzene	30	29.7	99	30	30.4	101	(70-135)	2.30	(< 20)
n-Propylbenzene	30	30.6	102	30	30.6	102	(70-130)	0.03	(< 20)
Naphthalene	30	30.2	101	30	31.8	106	(55-140)	5.40	(< 20)
o-Xylene	30	32.0	107	30	31.0	103	(80-120)	3.30	(< 20)
P & M -Xylene	60	65.9	110	60	63.3	105	(75-130)	4.10	(< 20)
sec-Butylbenzene	30	30.9	103	30	31.3	104	(70-125)	1.20	(< 20)
Styrene	30	33.1	110	30	31.9	106	(65-135)	3.70	(< 20)
tert-Butylbenzene	30	32.2	107	30	32.5	108	(70-130)	0.80	(< 20)
Tetrachloroethene	30	30.9	103	30	30.4	101	(45-150)	1.80	(< 20)
Toluene	30	32.4	108	30	31.2	104	(75-120)	3.80	(< 20)
trans-1,2-Dichloroethene	30	32.9	110	30	31.5	105	(60-140)	4.10	(< 20)
trans-1,3-Dichloropropene	30	33.2	111	30	32.4	108	(55-140)	2.20	(< 20)
Trichloroethene	30	33.3	111	30	32.0	107	(70-125)	4.00	(< 20)
Trichlorofluoromethane	30	32.5	108	30	30.7	102	(60-145)	5.60	(< 20)
Vinyl chloride	30	30.9	103	30	30.0	100	(50-145)	3.00	(< 20)
Xylenes (total)	90	97.9	109	90	94.2	105	(80-120)	3.80	(< 20)

Surrogates

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24879]
Blank Spike Lab ID: 1156757
Date Analyzed: 07/01/2013 12:33

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24879]
Spike Duplicate Lab ID: 1156758
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689006, 1132689007

Results by SW8260B

Parameter	Blank Spike (%)			Spike Duplicate (%)					
	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2-Dichloroethane-D4	30	97.4	97	30	95.9	96	(70-120)	1.60	
4-Bromofluorobenzene	30	98.9	99	30	99.5	100	(75-120)	0.60	
Toluene-d8	30	101	101	30	100	100	(85-120)	0.66	

Batch Information

Analytical Batch: VMS13594
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: NRB

Prep Batch: VXX24879
Prep Method: SW5030B
Prep Date/Time: 07/01/2013 11:24
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:32AM

Method Blank

Blank ID: MB for HBN 1458366 [VXX/24884]
Blank Lab ID: 1156965

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1132689001, 1132689002, 1132689008

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0620U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene	92.7	50-150		%

Batch Information

Analytical Batch: VFC11487
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/2/2013 9:41:00AM

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 7/2/2013 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:33AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24884]
 Blank Spike Lab ID: 1156968
 Date Analyzed: 07/02/2013 10:37

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24884]
 Spike Duplicate Lab ID: 1156969
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689001, 1132689002, 1132689008

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	0.922	92	1.00	1.01	101	(60-120)	8.70	(< 20)
Surrogates									
4-Bromofluorobenzene	0.0500	96.7	97	0.0500	89.9	90	(50-150)	7.30	

Batch Information

Analytical Batch: **VFC11487**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX24884**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/02/2013 08:00**
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:34AM



Method Blank

Blank ID: MB for HBN 1458366 [VXX/24884]

Blank Lab ID: 1156965

QC for Samples:

1132689001, 1132689002, 1132689008

Matrix: Water (Surface, Eff., Ground)

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.300U	0.500	0.150	ug/L
Ethylbenzene	0.620U	1.00	0.310	ug/L
o-Xylene	0.620U	1.00	0.310	ug/L
P & M -Xylene	1.24U	2.00	0.620	ug/L
Toluene	0.620U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene	96.7	77-115		%

Batch Information

Analytical Batch: VFC11487
Analytical Method: SW8021B
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 7/2/2013 9:41:00AM

Prep Batch: VXX24884
Prep Method: SW5030B
Prep Date/Time: 7/2/2013 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:35AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24884]
 Blank Spike Lab ID: 1156966
 Date Analyzed: 07/02/2013 10:18

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24884]
 Spike Duplicate Lab ID: 1156967
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689001, 1132689002, 1132689008

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	111	111	100	115	115	(80-120)	3.30	(< 20)
Ethylbenzene	100	108	108	100	111	111	(75-125)	3.30	(< 20)
o-Xylene	100	105	105	100	108	108	(80-120)	3.50	(< 20)
P & M -Xylene	200	212	106	200	221	110	(75-130)	4.00	(< 20)
Toluene	100	111	111	100	114	114	(75-120)	3.10	(< 20)
Surrogates									
1,4-Difluorobenzene	50	101	101	50	101	101	(77-115)	0.36	

Batch Information

Analytical Batch: **VFC11487**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX24884**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/02/2013 08:00**
 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:35AM



Method Blank

Blank ID: MB for HBN 1458769 [VXX/24891]
Blank Lab ID: 1157418

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.000300U	0.000500	0.000150	mg/L
Ethylbenzene	0.000620U	0.00100	0.000310	mg/L
Gasoline Range Organics	0.0342J	0.100	0.0310	mg/L
o-Xylene	0.000620U	0.00100	0.000310	mg/L
P & M -Xylene	0.00124U	0.00200	0.000620	mg/L
Toluene	0.000620U	0.00100	0.000310	mg/L
Surrogates				
1,4-Difluorobenzene	93.6	77-115		%
4-Bromofluorobenzene	100	50-150		%

Batch Information

Analytical Batch: VFC11490
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/3/2013 8:24:00AM

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 7/3/2013 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:37AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24891]
 Blank Spike Lab ID: 1157419
 Date Analyzed: 07/03/2013 09:01

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24891]
 Spike Duplicate Lab ID: 1157420
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.100	0.104	104	0.100	0.101	101	(80-120)	3.60	(< 20)
Ethylbenzene	0.100	0.113	113	0.100	0.108	108	(75-125)	4.20	(< 20)
o-Xylene	0.100	0.111	111	0.100	0.108	108	(80-120)	3.20	(< 20)
P & M -Xylene	0.200	0.226	113	0.200	0.220	110	(75-130)	3.10	(< 20)
Toluene	0.100	0.113	113	0.100	0.108	108	(75-120)	4.10	(< 20)

Surrogates

1,4-Difluorobenzene	0.0500	98.7	99	0.0500	99.9	100	(77-115)	1.20	
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Batch Information

Analytical Batch: **VFC11490**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX24891**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/03/2013 08:00**
 Spike Init Wt./Vol.: 0.100 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 0.100 mg/L Extract Vol: 5 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24891]
Blank Spike Lab ID: 1157421
Date Analyzed: 07/03/2013 09:20

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24891]
Spike Duplicate Lab ID: 1157422
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	1.01	101	1.00	0.959	96	(60-120)	5.00	(< 20)
Surrogates									
4-Bromofluorobenzene	0.0500	103	103	0.0500	104	104	(50-150)	0.23	

Batch Information

Analytical Batch: **VFC11490**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **ST**

Prep Batch: **VXX24891**
Prep Method: **SW5030B**
Prep Date/Time: **07/03/2013 08:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:38AM



Method Blank

Blank ID: MB for HBN 1458769 [VXX/24891]
Blank Lab ID: 1157418

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.300U	0.500	0.150	ug/L
Ethylbenzene	0.620U	1.00	0.310	ug/L
o-Xylene	0.620U	1.00	0.310	ug/L
P & M -Xylene	1.24U	2.00	0.620	ug/L
Toluene	0.620U	1.00	0.310	ug/L
Surrogates				
1,4-Difluorobenzene	93.6	77-115		%

Batch Information

Analytical Batch: VFC11490
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/3/2013 8:24:00AM

Prep Batch: VXX24891
Prep Method: SW5030B
Prep Date/Time: 7/3/2013 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/05/2013 11:41:39AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [VXX24891]
 Blank Spike Lab ID: 1157419
 Date Analyzed: 07/03/2013 09:01

Spike Duplicate ID: LCSD for HBN 1132689 [VXX24891]
 Spike Duplicate Lab ID: 1157420
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	104	104	100	101	101	(80-120)	3.60	(< 20)
Ethylbenzene	100	113	113	100	108	108	(75-125)	4.20	(< 20)
o-Xylene	100	111	111	100	108	108	(80-120)	3.20	(< 20)
P & M -Xylene	200	226	113	200	220	110	(75-130)	3.10	(< 20)
Toluene	100	113	113	100	108	108	(75-120)	4.10	(< 20)
Surrogates									
1,4-Difluorobenzene	50	98.7	99	50	99.9	100	(77-115)	1.20	

Batch Information

Analytical Batch: **VFC11490**
 Analytical Method: **SW8021B**
 Instrument: **Agilent 7890A PID/FID**
 Analyst: **ST**

Prep Batch: **VXX24891**
 Prep Method: **SW5030B**
 Prep Date/Time: **07/03/2013 08:00**
 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL



Method Blank

Blank ID: MB for HBN 1457708 [XXX/29283]
Blank Lab ID: 1156039

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1132689001, 1132689002, 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.360U	0.600	0.180	mg/L
Surrogates				
5a Androstane	71.4	60-120		%

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK102
Instrument: HP 6890 Series II FID SV D R
Analyst: MCM
Analytical Date/Time: 6/29/2013 7:15:00PM

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 6/28/2013 11:10:00AM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:40AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [XXX29283]
Blank Spike Lab ID: 1156040
Date Analyzed: 06/29/2013 19:24

Spike Duplicate ID: LCSD for HBN 1132689 [XXX29283]
Spike Duplicate Lab ID: 1156041
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689001, 1132689002, 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	5	4.42	88	5	4.79	96	(75-125)	8.10	(< 20)
Surrogates									
5a Androstane	0.1	93.5	94	0.1	102	102	(60-120)	8.60	

Batch Information

Analytical Batch: **XFC10942**
Analytical Method: **AK102**
Instrument: **HP 6890 Series II FID SV D R**
Analyst: **MCM**

Prep Batch: **XXX29283**
Prep Method: **SW3520C**
Prep Date/Time: **06/28/2013 11:10**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:41AM



Method Blank

Blank ID: MB for HBN 1457708 [XXX/29283]
Blank Lab ID: 1156039

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1132689001, 1132689002, 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	0.181J	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62	72.6	60-120		%

Batch Information

Analytical Batch: XFC10942
Analytical Method: AK103
Instrument: HP 6890 Series II FID SV D R
Analyst: MCM
Analytical Date/Time: 6/29/2013 7:15:00PM

Prep Batch: XXX29283
Prep Method: SW3520C
Prep Date/Time: 6/28/2013 11:10:00AM
Prep Initial Wt./Vol.: 1000 mL
Prep Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:41AM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1132689 [XXX29283]
 Blank Spike Lab ID: 1156040
 Date Analyzed: 06/29/2013 19:24

Spike Duplicate ID: LCSD for HBN 1132689 [XXX29283]
 Spike Duplicate Lab ID: 1156041
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1132689001, 1132689002, 1132689003, 1132689004, 1132689005, 1132689006, 1132689007

Results by AK103

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	5	5.23	105	5	5.60	112	(60-120)	6.80	(< 20)
Surrogates									
n-Triacontane-d62	0.1	97.2	97	0.1	106	106	(60-120)	8.50	

Batch Information

Analytical Batch: **XFC10942**
 Analytical Method: **AK103**
 Instrument: **HP 6890 Series II FID SV D R**
 Analyst: **MCM**

Prep Batch: **XXX29283**
 Prep Method: **SW3520C**
 Prep Date/Time: **06/28/2013 11:10**
 Spike Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL

Print Date: 07/05/2013 11:41:42AM



SGS North America Inc. CHAIN OF CUSTODY RECORD

1132689



CLIENT: BGFs

CONTACT: J. Baird

PHONE NO: (907) 644-2900

PROJECT: PWSID/ PERMIT#

NAME: Six Robblees

REPORTS TO: J. Martin

E-MAIL: josh@bgesinc.com

INVOICE TO: BGFs

QUOTE #: 10772B

P.O. #:

Section 1

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

Page 1 of 1

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH-MM	MATRIX/MATRIX CODE	Section 3		Preservative					REMARKS/LOC ID	
					Type	#	HC1	HC2	HC3	HC4	HC5		HC6
①	Mw15-0626	6-26-13	1015	Water	Grp	5	X						
②	B6/12-0626		1310		Grp	5	X						
③	Mw1-0626		1430		Grp	5	X						
④	Mw2-0626		1630		Grp	5	X						
⑤	Mw14-0626		1830		Grp	5	X						
⑥	Mw13-0626		1945		Grp	8	X						
⑦	Mw20-0626		1945		Grp	8	X						
⑧	TB1			W									
⑨	TB2			W									

Section 4

Section 4 DOD Project? Yes No Yes Data Deliverable Requirements: Level 2

Cooler ID: Standard 10-Day

Requested Turnaround Time and/or Special Instructions: Standard 10-Day

Section 5

Relinquished By: (1) [Signature] Received By: [Signature] Date: 6-27-13 Time:

Relinquished By: (2) [Signature] Received By: [Signature] Date: Time:

Relinquished By: (3) [Signature] Received By: [Signature] Date: Time:

Relinquished By: (4) [Signature] Received For Laboratory By: [Signature] Date: 6/27/13 Time: 1024

Temp Blank °C: 2.3 / 2.3 or Ambient [] #11

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

(See attached Sample Receipt Form)

(See attached Sample Receipt Form)



SAMPLE RECEIPT FORM

Review Criteria:	Condition:	Comments/Action Taken:
Were custody seals intact? Note # & location, if applicable. COC accompanied samples?	Yes No <u>N/A</u> <u>Yes</u> No N/A	
Temperature blank compliant* (i.e., 0-6°C after CF)? <i>* Note: Exemption permitted for chilled samples collected less than 8 hours ago.</i> Cooler ID: <u>1</u> @ <u>2.3</u> w/ Therm.ID: <u>203</u> Cooler ID: <u>2</u> @ <u>2.3</u> w/ Therm.ID: <u>11</u> Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ Cooler ID: _____ @ _____ w/ Therm.ID: _____ <i>Note: If non-compliant, use form FS-0029 to document affected samples/analyses.</i> If samples are received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled." If temperature(s) <0°C, were all sample containers ice free?	<u>Yes</u> No N/A	
Delivery method (specify all that apply): USPS Alert Courier C&D Delivery AK Air Lynden Carlile ERA PenAir FedEx UPS NAC Other: → For WO# with airbills, was the WO# & airbill info recorded in the Front Counter eLog?	Client Note ABN/tracking # See Attached or <u>N/A</u> Yes No <u>N/A</u>	
→ For samples received with payment, note amount (\$) and cash / check / CC (circle one) or note: → For samples received in FBKS, ANCH staff will verify all criteria are reviewed.		<u>N/A</u> SRF Initiated by: <u>SLC</u> <u>N/A</u>
Were samples received within hold time? <i>Note: Refer to form F-083 "Sample Guide" for hold time information.</i> Do samples match COC* (i.e., sample IDs, dates/times collected)? <i>* Note: Exemption permitted if times differ <1hr; in that case, use times on COC.</i> Were analyses requested unambiguous?	<u>Yes</u> No N/A <u>Yes</u> No N/A <u>Yes</u> No N/A	
Were samples in good condition (no leaks/cracks/breakage)? Packing material used (specify all that apply): <u>Bubble Wrap</u> Separate plastic bags Vermiculite Other:	<u>Yes</u> No N/A	
Were all VOA vials free of headspace (i.e., bubbles ≤6 mm)? Were all soil VOAs field extracted with MeOH+BFB?	Yes <u>No</u> N/A Yes No <u>N/A</u>	Samples <u>4</u> A-C, <u>5</u> A-C, and TB <u>3</u> A-C have bubbles
Were proper containers (type/mass/volume/preservative*) used? <i>* Note: Exemption permitted for waters to be analyzed for metals.</i> Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<u>Yes</u> No N/A <u>Yes</u> No N/A	
For special handling (e.g., "MI" or foreign soils, lab filter, <u>limited volume</u> , Ref Lab), were bottles/paperwork flagged (e.g., sticker)?	<u>Yes</u> No N/A	
For preserved waters (other than VOA vials, LL-Mercury or microbiological analyses), was pH verified and compliant? If pH was adjusted, were bottles flagged (i.e., stickers)?	<u>Yes</u> No N/A Yes No <u>N/A</u>	
For RUSH/SHORT Hold Time, were COC/Bottles flagged accordingly? Was Rush/Short HT email sent, if applicable?	Yes No <u>N/A</u>	
For SITE-SPECIFIC QC, e.g. BMS/BMSD/BDUP, were containers / paperwork flagged accordingly?	Yes No <u>N/A</u>	
For any question answered "No," has the PM been notified and the problem resolved (or paperwork put in their bin)?	Yes No <u>N/A</u>	SRF Completed by: <u>SLC 6/27/13</u> PM = <u>N/A</u>
Was PEER REVIEW of sample numbering/labeling completed?	Yes No <u>N/A</u>	Peer Reviewed by: <u>N/A</u>
Additional notes (if applicable):		

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

APPENDIX C

LABORATORY ANALYTICAL DATA QUALITY CONTROL CHECKLIST

Laboratory Data Review Checklist

Completed by:

Title: Date:

CS Report Name: Report Date:

Consultant Firm:

Laboratory Name: Laboratory Report Number:

ADEC File Number: ADEC RecKey Number:

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
 Yes No NA (Please explain.) Comments:
- b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
Yes No NA (Please explain.) Comments:

Laboratory samples were not transferred to another "network" laboratory.

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)?
 Yes No NA (Please explain.) Comments:

- b. Correct analyses requested?
 Yes No NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?
 Yes No NA (Please explain.) Comments:

The temperature of both coolers were measured at 2.3 degrees Celsius (C) by the laboratory at the time of receipt, which are within the prescribed limits (4 degrees C +/- 2 degrees C).

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

Yes No NA (Please explain.)

Comments:

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

Yes No NA (Please explain.)

Comments:

The water samples from MW2 and MW14 exhibited bubbles approximately 6 mm or less in size in the 40-milliliter vials for VOCs analysis on the SGS Sample Receipt form. This indicates a potential for the reported concentrations of GRO and VOCs within these samples to be biased low. SGS indicated that two of the vials for MW2 (laboratory sample IDs 1132689004-B and 1132689004-C) contained headspace (bubbles approximately 6 mm or less); and thus the third vial (laboratory ID 1132689004-A), which was free of headspace was originally analyzed. Re-analysis was required for this sample, however, and vial 1132689004-C was used for the re-analysis. The laboratory data reported for MW2 was for vial 1132689004-C. SGS also indicated that all three sample containers for MW14 (laboratory IDs 1132689005-A, 1132689005-B, and 1132689005-C) contained headspace (bubbles approximately 6 mm or less in size). The vial with the least amount of headspace (1132689005-A) was analyzed; however, this sample also required re-analysis, and vial 1132689005-C was used. The laboratory data reported for MW14 were the results for vial 1132689005-C. Two of the vials from the laboratory trip blank (1132689008-B and 1132689008-C) contained headspace; thus, vial 1132689008-A, which did not contain headspace, was analyzed. During previous groundwater monitoring events, it has been difficult to collect samples for VOCs analysis without headspace from several different monitoring wells at this site. BGES assumes that this may be the result of a surfactant that was reportedly applied to the site previously. The BTEX results of the water samples from these monitor wells during this sampling event were consistent or slightly higher than the results from the previous groundwater sampling event in August and September of 2012. For these reasons, it is our opinion that the presence of headspace in the vials for MW2 and MW14 does not affect the acceptability of the data for their intended use.

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 NA (Please explain.)

Comments:

See 3c., above.

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

Comments:

See 3c., above.

4. Case Narrative

a. Present and understandable?

Yes No NA (Please explain.)

Comments:

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

Yes No NA (Please explain.)

Comments:

The case narrative noted that the instrument blank (laboratory sample number 1458199) result for RRO and DRO was greater than one-half of the limit of quantitation (LOQ); however, the instrument blank result was less than the LOQ. All field samples exhibited RRO and DRO concentrations that exceeded their respective ADEC cleanup criteria. For this reason, it is our opinion that this QC failure does not affect the acceptability of the data for their intended use.

The case narrative noted that the instrument blank (laboratory sample number 1458418) result for RRO was greater than one-half of the limit of quantitation (LOQ); however, the instrument blank result was less than the LOQ. All field samples exhibited RRO concentrations that exceeded their respective ADEC cleanup criteria. For this reason, it is our opinion that this QC failure does not affect the acceptability of the data for their intended use. The LOQs for 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane, 1,2-dichloropropane, carbon tetrachloride, methylene chloride, and vinyl chloride exceeded their respective ADEC cleanup criteria in Field Samples MW13 and MW20 (duplicate of MW13). Therefore, it cannot be determined if actual concentrations of the previously-listed VOCs within these field samples exceed their respective ADEC cleanup criteria. Because Field Samples MW13 and MW20 (duplicate of MW13) contained concentrations of GRO, DRO, RRO, BTEX, 1,2,4-trimethylbenzene, and n-propylbenzene, that greatly exceeded the ADEC cleanup criteria, it is our opinion that the lack of information concerning the previously-listed VOCs does not affect the interpretation of the data for their intended use.

c. Were all corrective actions documented?

Yes No NA (Please explain.)

Comments:

See 4b., above.

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

Comments:

See 4b., above.

5. Samples Results

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

Yes No NA (Please explain.)

Comments:

b. All applicable holding times met?

Yes No NA (Please explain.)

Comments:

c. All soils reported on a dry weight basis?
 Yes No NA (Please explain.)

Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
 No Yes NA (Please explain.)

Comments:

The water sample MW20 was a duplicate of the water sample collected from Monitoring Well MW13 and was collected to evaluate sampling precision. The Relative Percent Differences (RPDs) calculated utilizing duplicate sample (MW20) collected in association with Field Sample MW13 ranged between 0.73 percent and 17.10 percent, which are all below the ADEC recommended limit of 30 percent. These calculated RPDs indicate excellent field sampling precision for this water sample and water sample duplicate. Because all of these analytes exhibited acceptable RPDs, it is our opinion that the data are acceptable for their intended use.

e. Data quality or usability affected?

Comments:

See 5d., above.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?
 Yes No NA (Please explain.)

Comments:

ii. All method blank results less than PQL?
 Yes No NA (Please explain.)

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
Yes No NA (Please explain.)

Comments:

N/A

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

Comments:

N/A

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

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

Samples were not analyzed for metals for this project.

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

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

Comments:

N/A

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

Yes No NA (Please explain.) Comments:

No percent recovery values or RDPs were outside the laboratory acceptance ranges

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

Comments:

N/A

c. Surrogates – Organics Only

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

No percent recovery values for surrogates were outside the laboratory acceptance ranges

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

Comments:

N/A

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

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

Yes No NA (Please explain.) Comments:

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

Yes No NA (Please explain.) Comments:

All samples to be analyzed for VOCs were stored and transported in the cooler with the trip blank.

iii. All results less than PQL?

Yes No NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?

Comments:

N/A

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

Comments:

N/A

e. Field Duplicate

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

Yes No NA (Please explain.) Comments:

ii. Submitted blind to lab?

Yes No NA (Please explain.) Comments:

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No NA (Please explain.) Comments:

The water sample MW20 was a duplicate of the water sample collected from Monitoring Well MW13 and was collected to evaluate sampling precision. The Relative Percent Differences (RPDs) calculated utilizing duplicate sample (MW20) collected in association with Field Sample MW13 ranged between 0.73 percent and 17.10 percent, which are all below the ADEC recommended limit of 30 percent. These calculated RPDs indicate excellent field sampling precision for this water sample and water sample duplicate. Because all of these analytes exhibited acceptable RPDs, it is our opinion that the data are acceptable for their intended use.

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

Comments:

N/A

f. Decontamination or Equipment Blank (If not used explain why).

Yes No NA (Please explain.) Comments:

Not applicable. A decontamination or equipment blank was not collected because it was not part of our approved scope of work.

i. All results less than PQL?

Yes No NA (Please explain.) Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

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

Comments:

N/A

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

a. Defined and appropriate?

Yes No NA (Please explain.)

Comments:

APPENDIX D
GRAPHICAL HUMAN HEALTH CONCEPTUAL SITE MODEL

HUMAN HEALTH CONCEPTUAL SITE MODEL

Site: _____

Follow the directions below. Do not consider engineering or land use controls when describing pathways.

Completed By: _____
 Date Completed: _____

(1) Check the media that could be directly affected by the release.
(2) For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Briefly list other mechanisms or reference the report for details.

(3) Check exposure media identified in (2).
(4) Check exposure pathways that are complete or need further evaluation. The pathways identified must agree with Sections 2 and 3 of the CSM Scoping Form.

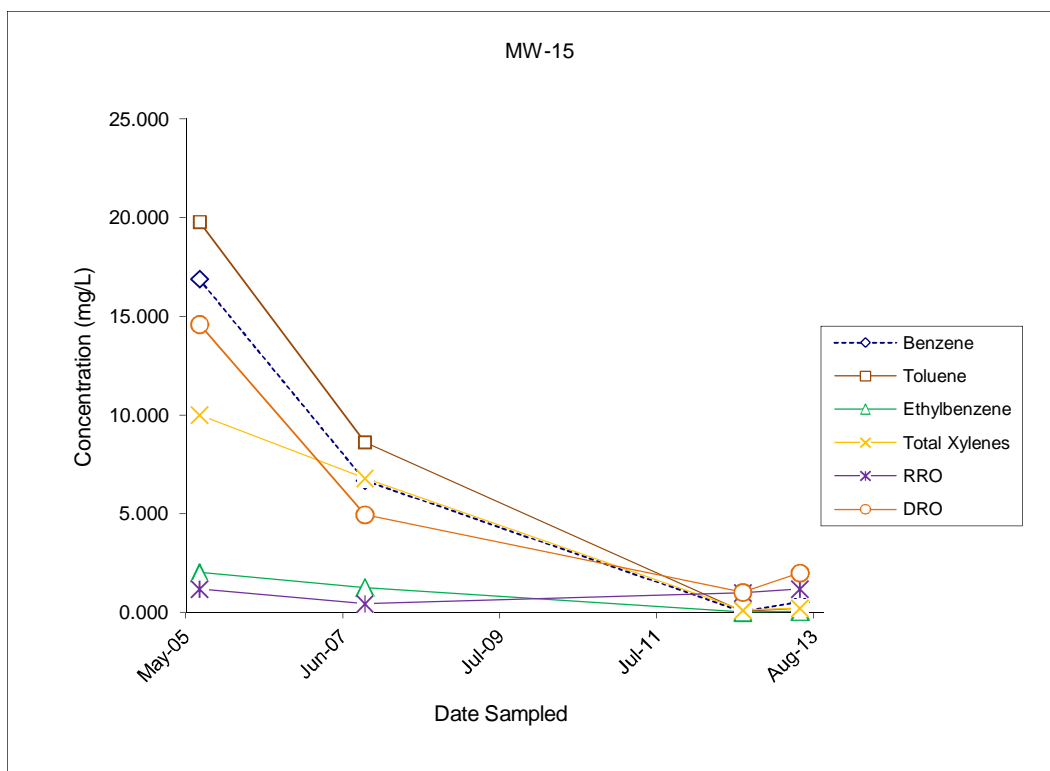
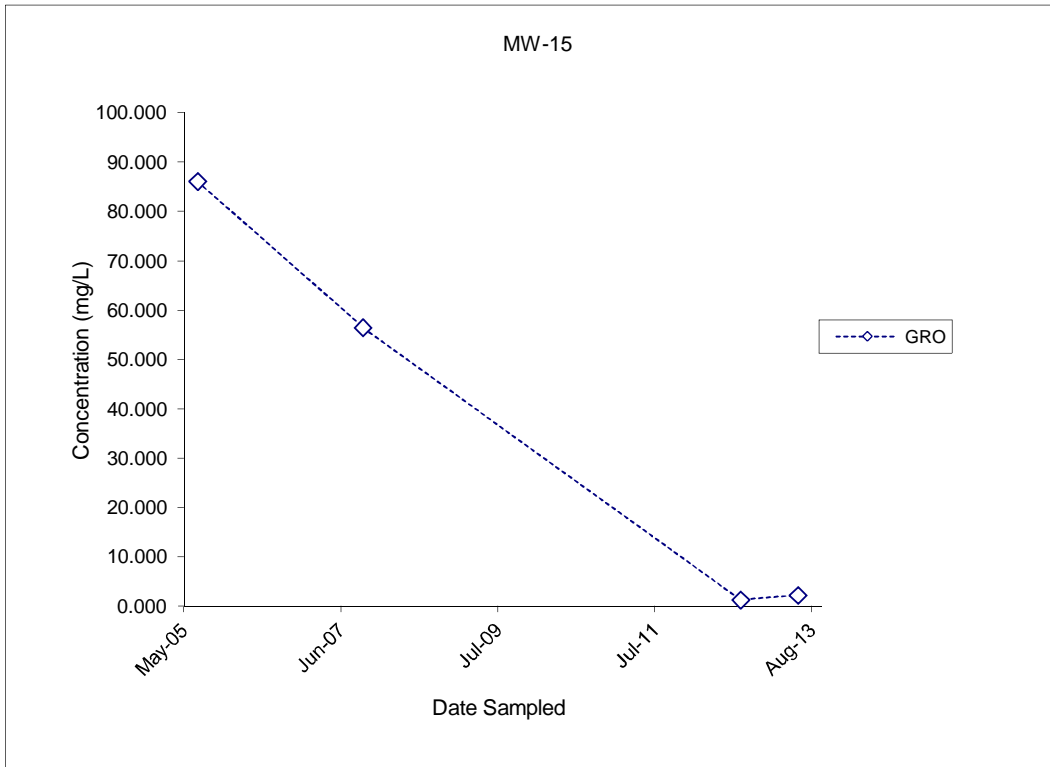
(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, or "C/F" for both current and future receptors.

Media	Transport Mechanisms	Exposure Media	Exposure Pathways	Current & Future Receptors												
				Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other						
<input type="checkbox"/> Surface Soil (0-2 ft bgs)	<input type="checkbox"/> Direct release to surface soil <i>check soil</i>	<input type="checkbox"/> soil	<input type="checkbox"/> Incidental Soil Ingestion <input type="checkbox"/> Dermal Absorption of Contaminants from Soil													
	<input type="checkbox"/> Migration or leaching to subsurface <i>check soil</i>															
	<input type="checkbox"/> Migration or leaching to groundwater <i>check groundwater</i>		<input type="checkbox"/> groundwater	<input type="checkbox"/> Ingestion of Groundwater <input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water												
	<input type="checkbox"/> Volatilization <i>check air</i>															
	<input type="checkbox"/> Runoff or erosion <i>check surface water</i>				<input type="checkbox"/> air	<input type="checkbox"/> Inhalation of Outdoor Air <input type="checkbox"/> Inhalation of Indoor Air <input type="checkbox"/> Inhalation of Fugitive Dust										
	<input type="checkbox"/> Uptake by plants or animals <i>check biota</i>															
<input type="checkbox"/> Other (list): _____																
<input type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input type="checkbox"/> Direct release to subsurface soil <i>check soil</i>	<input type="checkbox"/> groundwater	<input type="checkbox"/> Ingestion of Groundwater <input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water													
	<input type="checkbox"/> Migration to groundwater <i>check groundwater</i>															
	<input type="checkbox"/> Volatilization <i>check air</i>															
	<input type="checkbox"/> Other (list): _____															
<input type="checkbox"/> Ground-water	<input type="checkbox"/> Direct release to groundwater <i>check groundwater</i>	<input type="checkbox"/> air	<input type="checkbox"/> Inhalation of Outdoor Air <input type="checkbox"/> Inhalation of Indoor Air <input type="checkbox"/> Inhalation of Fugitive Dust													
	<input type="checkbox"/> Volatilization <i>check air</i>															
	<input type="checkbox"/> Flow to surface water body <i>check surface water</i>			<input type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water <input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water											
	<input type="checkbox"/> Flow to sediment <i>check sediment</i>															
	<input type="checkbox"/> Uptake by plants or animals <i>check biota</i>															
<input type="checkbox"/> Other (list): _____																
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Direct release to surface water <i>check surface water</i>	<input type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water <input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water													
	<input type="checkbox"/> Volatilization <i>check air</i>															
	<input type="checkbox"/> Sedimentation <i>check sediment</i>			<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment											
	<input type="checkbox"/> Uptake by plants or animals <i>check biota</i>															
<input type="checkbox"/> Other (list): _____																
<input type="checkbox"/> Sediment	<input type="checkbox"/> Direct release to sediment <i>check sediment</i>	<input type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild Foods													
	<input type="checkbox"/> Resuspension, runoff, or erosion <i>check surface water</i>															
	<input type="checkbox"/> Uptake by plants or animals <i>check biota</i>															
<input type="checkbox"/> Other (list): _____																

APPENDIX E
GRAPHS OF HISTORICAL WATER QUALITY DATA

GRAPHS
4748 OLD SEWARD HIGHWAY
HISTORICAL ANALYTICAL RESULTS
JUNE 2013

BGES, INC.



Only analytes with historic contamination above ADEC cleanup levels were listed.

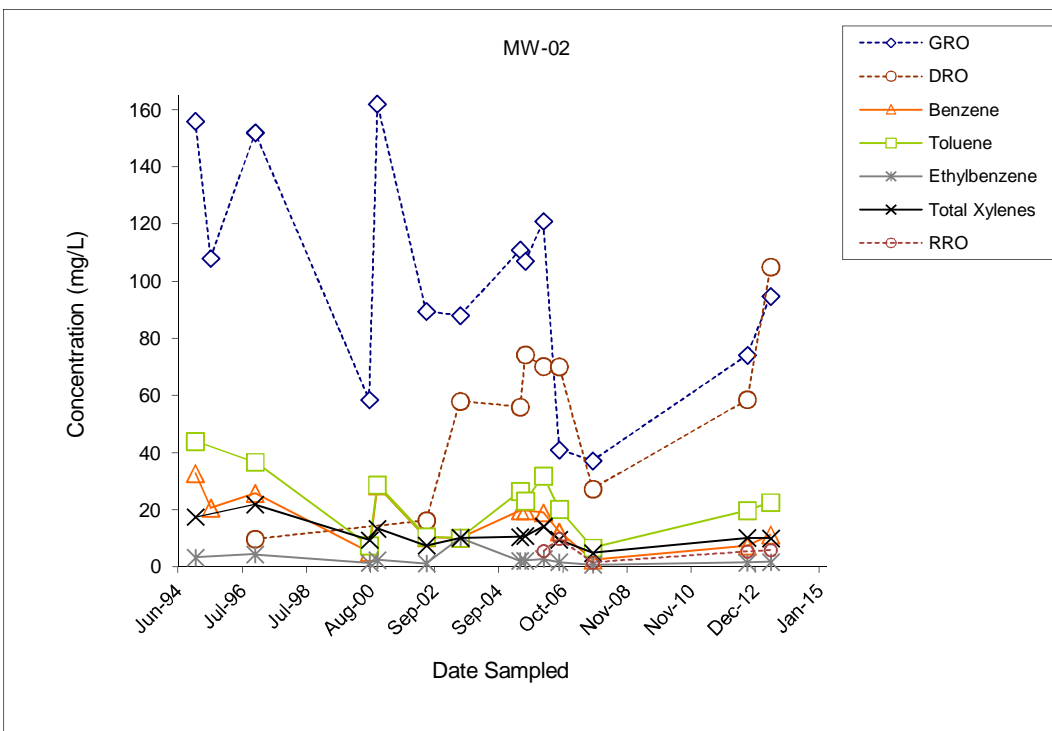
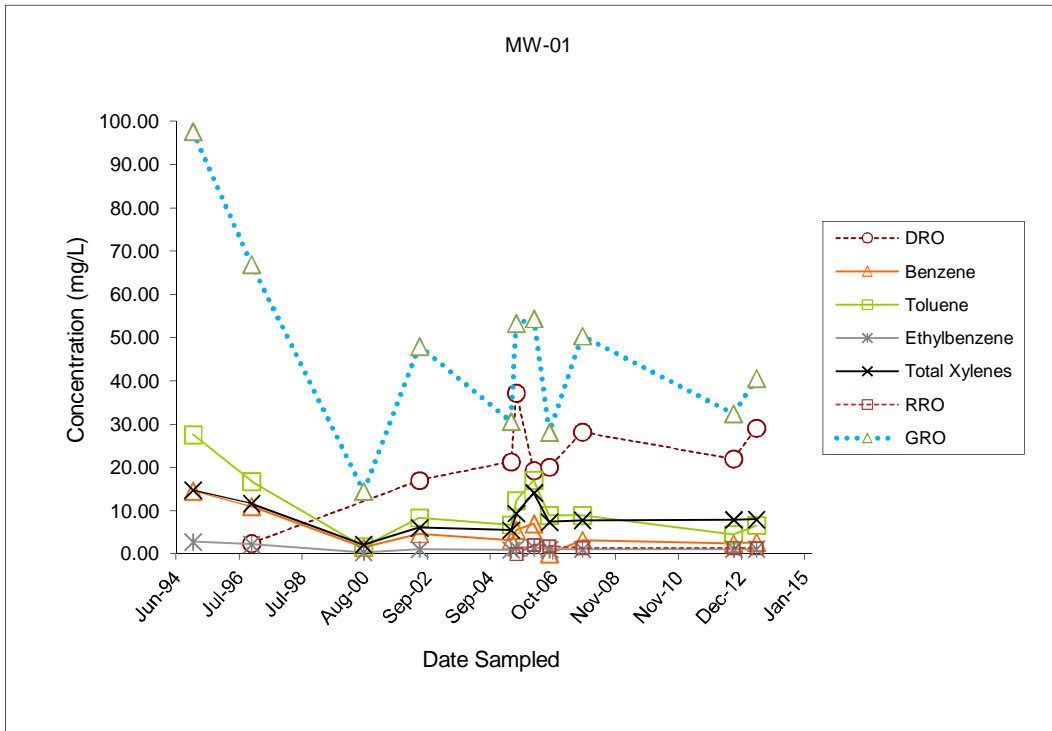
GRO = Gasoline Range Organics

DRO = Diesel Range Organics

RRO = Residual Range Organics

GRAPHS
4748 OLD SEWARD HIGHWAY
HISTORICAL ANALYTICAL RESULTS
JUNE 2013

BGES, INC.



Only analytes with historic contamination above ADEC cleanup levels were listed.

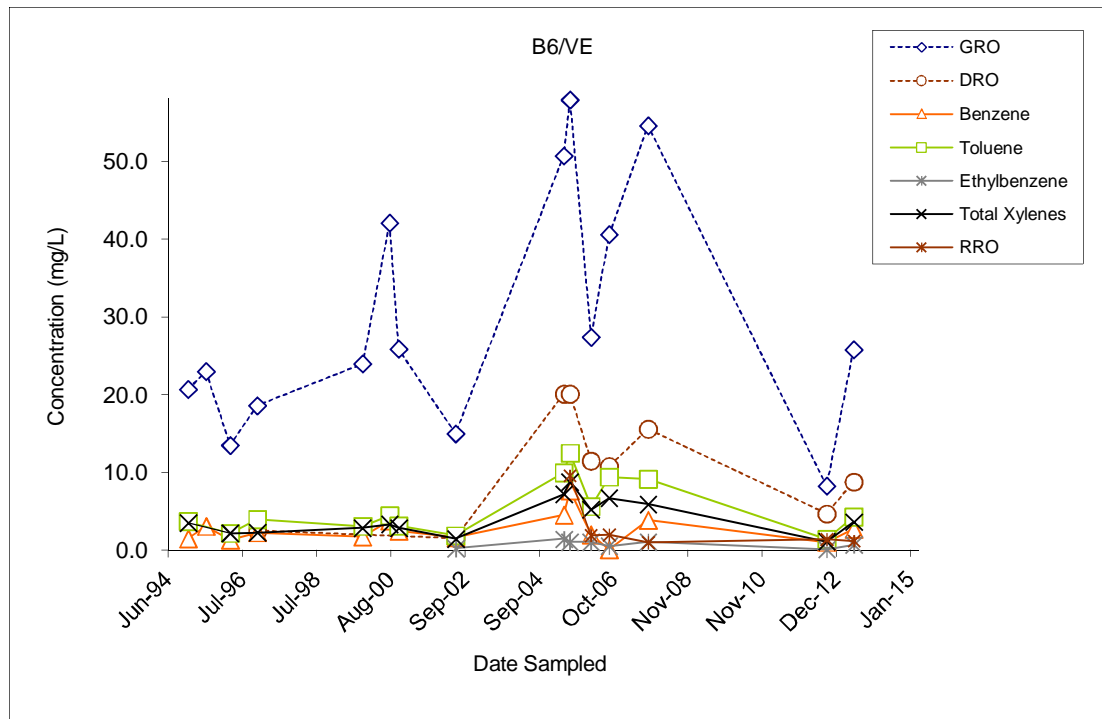
GRO = Gasoline Range Organics

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GRAPHS
4748 OLD SEWARD HIGHWAY
HISTORICAL ANALYTICAL RESULTS
JUNE 2013

BGES, INC.



Only analytes with historic contamination above ADEC cleanup levels were listed.

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

RRO = Residual Range Organics