

Ms. Tamara Cardona-Marek Alaska Department of Environmental Conservation 610 University Avenue Fairbanks, Alaska 99709

Subject: First Semi-annual 2008 Groundwater Monitoring Report Former Chevron Bulk Plant 1001430, Former Texaco Bulk Plant 211815, Former Unocal Bulk Plant 306456 418 Illinois Street, 410 Driveway Street, 328 ½ Illinois Street Fairbanks, Alaska File Numbers: 102.38.006, 102.38.005, 102.38.004

Dear Ms. Cardona-Marek:

On behalf of Chevron Environmental Management Company (Chevron), ARCADIS U.S., Inc. (ARCADIS) has prepared this report to document the first semi-annual 2008 sampling activities at former Chevron Bulk Plant 1001430, former Texaco Bulk Plant 211815, and former Unocal Bulk Plant 306456 located at 418 Illinois Street, 410 Driveway Street, and 328 ½ Illinois Street., respectively, in Fairbanks, Alaska. The site locations and surrounding area are shown on **Figure 1**.

## **Site Descriptions**

Former bulk plants 1001430, 211815 and 306456 are located on adjacent properties. The Alaska Railroad Corporation (ARRC) has owned the properties since the early 1900's. The sites are located within the Fairbanks Area-Wide Industrial Reclamation (FAIR) Area which is bounded by Noyes Slough to the north and east and Chena River to the south. Land use in the area consists primarily of industrial activities including: railroad facilities, bulk fuel terminals, gasoline stations, miscellaneous light industrial and warehousing.

Former Chevron terminal 1001430 is located at 418 Illinois Street in Fairbanks, Alaska. Chevron leased the property and operated a bulk plant at the site from 1926 to 1985. Saupe Enterprises began operating a bulk plant at the site in 1985. Sourdough Fuels now operates a bulk plant at the site. Former facilities included several aboveground storage tanks (ASTs) of varying sizes, conveyance piping, pump house, loading racks, a warehouse, and an office. Current facilities include conveyance piping, pump house, loading racks, warehouse, an office, and a new ARCADIS 2300 Eastlake Avenue East Suite 200 Seattle Washington 98102 Tel 206.325.5254 Fax 206.325.8218 www.arcadis-us.com

Environmental

Date: August 13, 2008

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## Imagine the result

horizontal AST farm located west of the original ASTs. Several of the original ASTs are now reportedly used for drum storage. In 1986, a groundwater extraction well was installed in the southwest corner of the site. From 1986 to 1990, the extraction well reportedly removed approximately 10,000 gallons of light non-aqueous phase liquid (LNAPL). Since 1982, 23 groundwater monitoring wells have been installed on and off-site. Several monitoring wells have been destroyed or abandoned due to site activities. There are currently 10 monitoring wells, MW-23, MW-25, TH-1, TH-2, TH-5, TH-7, TH-10, TH-13, TH-17, and TH-18, available and part of the sampling program for the Chevron site.

Site 211815 is located at 410 Driveway Street in Fairbanks, Alaska. Currently the site is leased from the ARRC by Unique Alaska. Unique Alaska has sub-leased the property to ABC General Contracting. Texaco leased the property and operated a bulk plant at the site from 1958 to 1982. Willner's Fuel Distribution then leased the site and operated a bulk plant from 1982 to 1993. A total of 12 ASTs, five 2,020-barrel capacity and seven 476-barrel capacity, were located on the southern portion of the site. The five larger ASTs were removed from the site in 1994 and historically contained No. 1 and No. 2 diesel, unleaded gasoline, and regular leaded gasoline. The smaller ASTs historically contained No. 10 oil. Information on their removal is unknown at this time. Two of the ASTs (one large and one small) were reportedly rented to a chemical company and contained silicone. The fuel holding and dispensing facilities were removed from the site sometime between 1994 and 2000. Eleven monitoring wells, AR-81, AR-85, MW-1 through MW-5, and MW-7 through MW-10, are currently available and part of the sampling program for the Texaco site.

Site 306456 is located on a 3.11 acre parcel at 328.5 Illinois Street in Fairbanks, Alaska. Unocal utilized the western 1.84 acres of the site to store and dispense fuel between 1952 and 1982, and added the western 1.27 acres onto the lease in 1961. Former fuel facilities included two 55,000-gallon and nine 20,000-gallon ASTs, underground pipelines, pumping facilities, a loading rack, and fuel dispensing pumps. Fuel stored on the site consisted of diesel and aviation gas. The Alaska Road Commission leased the eastern 1.27 acres of the site from 1941 to 1981. The entire site was leased by Interior Leasing from 1982 to 1989 and by CEM Leasing from 1989 to 2001. From 1982 to 2001, the facility was operated by Petroleum Sales. According to Phil Tannehill, co-owner of Petroleum Sales, the ASTs were removed in 1993, and the piping and dispensing equipment were removed in 1997. OK Lumber and Big State Logistics are currently leasing the property from the railroad. During a spring 2005 site visit, surface grading and fence alterations were noted. The site is now accessible from the north via the railroad right-of-way. The west warehouse

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appears to contain some sort of small business (no further details are available). Site features and the locations of buildings onsite can be found on **Figure 2**. Nineteen monitoring wells, GEI-1 through GEI-12, K-5, K-7, MW-2, MW-4, MW-5, MW-6 and MW-13, are currently available and part of the sampling program for the Unocal site.

Groundwater monitoring is conducted on a semi-annual basis at each of these sites. Wells which have historically had light-non-aqueous phase liquid (LNAPL), are gauged, and LNAPL is recovered (when present) on a monthly basis. The gauging data are included in **Tables 1a, 1b,** and **1c**.

## **Groundwater Monitoring**

First semi-annual 2008 groundwater monitoring was conducted by Oasis in April 2008. Monitoring wells TH-1, TH-2, TH-5, TH-7. TH-10, TH-13, MW-23 and MW-25 (Chevron); AR-81, AR-85, MW-3, MW-4, MW-7 through MW-10 (Texaco); and GEI-1 through GEI-4, GEI-9 through GEI-12, MW-2, MW-4 through MW-6 and K-5 (Unocal); were gauged.

A decontaminated oil-water interface probe was used to gauge the water level and depth to LNAPL, if present. LNAPL was measured in monitoring wells MW-4 (Texaco); GEI-2, GEI-11 and GEI-12 (Unocal) with thickness ranging from 0.01 feet in monitoring well MW-4 (Texaco) to 0.44 feet in monitoring well GEI-11 (Unocal). Groundwater elevations were corrected for the presence of LNAPL using the following formula:

## Corrected Groundwater Elevation =

(Top of Casing – Depth to Water) + (LNAPL Thickness x 0.8)

Wells were purged of three casing volumes of water using new disposable polyethylene bailer, a typhoon pump (MW-25), or a peristaltic pump (TH-13). Water quality parameters including temperature, pH and electrical conductivity were measured for each purge casing volume and are recorded on groundwater sample field data sheets presented in **Appendix A**.

### **Groundwater Flow**

Groundwater elevations in site monitoring wells ranged from 426.24 feet above sea level (asl) in monitoring well MW-7 (Texaco) to 428.86 feet asl in monitoring well AR-85 (Texaco). Groundwater gauging data can be found in **Tables 1a**, **1b** and **1c**. Groundwater flow direction in the first quarter 2008 was generally to the southwest as indicated by the potentiometric surface map and groundwater elevation contours seen on **Figure 2**. This is consistent with previous observations.

### Laboratory Analyses

Samples collected from the site monitoring wells were analyzed for:

- Gasoline range organics (GRO) by Alaska Method AK 101;
- Diesel range organics (DRO) by Alaska Method AK 102;
- Residual range organics (RRO) by Alaska Method 103; and
- Benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8021B.

As requested by ADEC, the samples from the two most impacted wells without LNAPL at each site (TH-13 and TH-17 at the Chevron site, MW-2 and MW-3 at the Texaco site, and GEI-2 and GEI-12 at the Unocal site) were sampled for the following additional contaminants of potential concern (COPCs):

- Polycyclic aromatic hydrocarbons (PAHs) by 8270C;
- 1, 2-dibromoethane (EDB) using EPA Method 8011;
- Eight RCRA metals by EPA Methods 7470A (mercury only) and 6010B; and
- Seven volatile organic compounds (VOCs) by EPA Method 8260B.

Monitoring well GEI-11 was erroneously sampled for EDB using EPA Method 8011. Additionally, the following table displays the wells that were not sampled during the first semi-annual 2008 sampling event and the associated reason:

Well ID	Reason Not Sampled						
F	ormer Chevron 1001430						
TH-5	absorbent sock frozen in well						
TH-17	well monument underwater						
TH-18	well monument underwater						
Former Texaco 211815							
MW-1 well monument underwa							
MW-2	ice in well casing						
MW-4	ice in well casing						
MW-5	well monument underwater						
	Former Unocal 306456						
GEI-1	ice in well casing						
GEI-5	well monument underwater						
GEI-6	well monument underwater						
GEI-7	ice in well casing						
GEI-8	absorbent sock frozen in well						
MW-13	ice in well casing						
K-7	ice in well casing						

## **Analytical Results**

Samples collected from monitoring wells TH-7 and TH-10 (Chevron), AR-85 and MW-9 (Texaco), MW-2 and MW-4 (Unocal) did not contain target analytes at concentrations exceeding the applicable ADEC Table C groundwater cleanup levels (GCLs).

Concentrations of GRO, DRO and BTEX exceeded ADEC GCLs in groundwater samples at each of the three sites. RRO exceeded the GCL in groundwater samples collected at the former Chevron and former Unocal sites. None of the samples collected during this event exceeded the GCLs for PAHs or the seven VOCs by 8260B. The groundwater samples collected from monitoring wells GEI-2 and GEI-11 (Unocal) exceed the EDB GCL of 0.05 micrograms per liter ( $\mu$ g/L) with concentrations of 73.3  $\mu$ g/L and 2.13  $\mu$ g/L, respectively.

At least one RCRA metal (arsenic, selenium, cadmium and lead) exceeded the GCLs in the samples from monitoring wells TH-13 (Chevron), MW-3 (Texaco), GEI-2 and GEI-12 (Unocal). GCL exceedances for arsenic and selenium were due to elevated method detection limits (MDLs) which were higher than the applicable GCL; samples

were non-detect for those metals, but potentially exceeded the respective GCL at lower concentrations.

In general, the analytical results are consistent with historical groundwater monitoring results. The dissolved-phase concentrations of petroleum hydrocarbons appear to be relatively stable at the three sites. Analytical results are summarized in **Tables 2a**, **2b**, **2c**, **3** and **4** and displayed on **Figure 3**.

## Laboratory Data Quality Assurance Summary

As required by ADEC (Technical Memorandum 06-002, dated October 9, 2006), ARCADIS completed a laboratory data review checklist for each of the TestAmerica laboratory reports from the first semi-annual 2008 groundwater monitoring event. The laboratory reports are included as **Appendix B**. The data review checklists are included as **Appendix C**. The following quality assurance (QA) summary describes six parameters, related to the quality and usability of the data presented in this report.

- Precision Based on the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) relative percent differences, the data meet precision objectives with the exception of the dichlorodifluoromethane LCS and LCSD in the samples collected from the former Unocal site. The LCS and LCSD for this analyte were outside of the acceptable laboratory limits. Three groundwater field duplicate samples were collected and the analytes were within relative percent difference (RPD) limits (30% for water samples), except for the DRO duplicate from the former Texaco site, which had an RPD of 58.25%.
- 2. Accuracy The data meet accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits, with a few exceptions. 1,2,3-trichlorobenzene was detected in the method blank for VOC 8260B analysis for the samples submitted from the former Unocal site and the former Texaco site. Additionally, surrogate recoveries for the following analytes were outside of the acceptable laboratory limits due to matrix effects: GRO, DRO and RRO (former Unocal), GRO (former Chevron), and GRO (QA/QC duplicate, former Texaco). Analytes were not detected in the three trip blanks collected during groundwater monitoring.

- 3. Representativeness The data appear to be representative of site conditions and are generally consistent with historical groundwater monitoring results and expected impacts to groundwater.
- 4. Comparability Comparability is not applicable to these laboratory results.
- 5. Completeness The results appear to be valid and usable, and thus, the laboratory results have 100% completeness.
- 6. Sensitivity The sensitivity of the analyses was adequate for the samples as the method detection limits (MDLs) were less than the ADEC GCLs with the following exceptions. RRO MDLs for the samples collected from the former Unocal site were above the GCL with the exception of the samples collected from monitoring wells MW-2, MW-4 and MW-6. Arsenic, selenium, lead and cadmium MDLs for various samples collected from all three sites exceeded the respective GCLs.

## **Purge Water Disposal**

Purge water generated during well sampling and equipment cleaning was collected into DOT-approved drums and temporarily stored onsite. The purge water drums were sampled and the samples were submitted to Lancaster Laboratories in Lancaster, Pennsylvania. The waste water was approved for disposal by ADEC and disposed of by Emerald Alaska.

## **Conclusions and Recommendations**

During the first semi-annual 2008 event, analytical data from several monitoring wells showed concentrations of GRO, DRO, RRO, and BTEX were greater than ADEC GCLs at each of the three sites (with the exception of RRO at the former Texaco site). These analytical results are consistent with historical data. RCRA metals detected in samples from site wells may be related to regional hydrogeology, rather than former site operations. Monthly LNAPL gauging and recovery will continue.

ARCADIS reviewed the current groundwater sampling schedule and dissolved constituent trends in groundwater monitoring wells. ARCADIS recommends sampling several of the Unocal and Chevron wells on an annual basis rather than a semi-annual basis. These wells are generally located between up-gradient and down-gradient wells or are not impacted.

The table below reflects the recommended groundwater sampling schedule:

Site	Semi-annual	Annual
Chevron	MW-23, MW-25, TH-1, TH-2, TH-5, TH-10, and TH-13	TH-7, TH-17, and TH-18
Texaco	AR-81, AR-85, MW-1 through MW-5, and MW- 7 through MW-10	
Unocal	GEI-1, GEI-2, GEI-3, GEI-5, GEI-6, GEI-7, GEI-10, GEI-11, GEI-12, K-5, MW-2, MW-5, MW-6 and MW-13	GEI-4, GEI-8, GEI- 9, K-7, MW-4
Notes: (1) Semi-an September (2) Anr	nual sampling is performed i nual sampling is performed ir	n March and n September

The COPC screening has been completed at the Chevron, Texaco, and Unocal sites. ARCADIS recommends eliminating the following analyses from the sampling program:

- PAHs by 8270C
- Volatiles by EPA Method 8260B (will continue BTEX analysis by 8021B)
- EDB using EPA Method 8011 (Chevron and Texaco only)

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A PDF file of this document and an electronic copy of the laboratory deliverables are included on a CD with this report. Should you have any questions or comments regarding this report, please feel free to contact ARCADIS at 206.726.4742.

Sincerely,

ARCADIS

Michael L. Strickler, G.I.T. Geologist I

Copies:

Greg Montgomery Project Scientist

Dan Carrier, Chevron Environmental Management Company, Brea, California Susan Schrader, ARRC, Anchorage, Alaska OK Lumber, Fairbanks, Alaska Sourdough Fuel, Inc., Anchorage, Alaska Big State Logistics, Inc., Fairbanks, Alaska Alaska Properties LLC, Fairbanks, Alaska

Attachments:

- Table 1aGroundwater Elevation Data (Former Chevron 1001430)
- Table 1bGroundwater Elevation Data (Former Texaco 211815)

Table 1cGroundwater Elevation Data (Former Unocal 306456)

- Table 2aGroundwater Analytical Data (Former Chevron 1001430)
- Table 2bGroundwater Analytical Data (Former Texaco 211815)
- Table 2c
   Groundwater Analytical Data (Former Unocal 306456)
- Table 3
   Groundwater VOC and RCRA Metals Analytical Data
- Table 4
   Groundwater PAH Analytical Data
- Figure 1 Site Location Map
- Figure 2 Groundwater Elevation Contours April 4, 2008
- Figure 3 Analytical Summary Map
- Appendix A Groundwater Sampling Field Data Sheets
- Appendix B Laboratory Data Reports
- Appendix C ADEC Data Review Checklists

Tables

# Table 1aGroundwater Elevation Data

Former Chevron 1001430 418 Illinois Fairbanks, Alaska

Bate         Elevation (rest)         Water (rest)         LNAPL (rest)         Elevation <sup>1</sup> (rest)           TH-1         06/24/02 04/29/03         440.41         17.80         -         422.61           04/29/03         17.95         -         422.45         -         422.95           03/10/04         18.06         -         422.32         -         422.34           03/10/04         18.06         -         422.34         -         422.35           03/10/04         18.55         -         422.34         -         422.34           04/90/05         18.57         -         422.84         -         421.83           09/15/06         16.64         -         423.95         -         424.91           09/20/07         445.69         16.79         -         428.90           09/40/08         13.37         -         424.91           04/29/03         16.24         present         422.44           09/30/03         13.22         -         425.46           09/16/06         16.87         0.10         421.89           04/19/05         16.87         0.10         421.89           09/9/6/05         15.03         0.03			Well	Depth to	Depth to	Groundwater
Well         Sampled         (feet from TOC)         (feet)         (fasl)           TH-1         06/24/02         440.41         17.80         -         422.61           09/25/02         17.95         -         422.46         422.46           09/25/02         17.95         -         422.46         422.46           09/30/03         14.99         -         422.45         421.86           09/15/04         18.55         -         421.86         421.83           09/15/04         18.55         -         421.83           09/12/07         445.69         16.79         -         428.90           09/12/07         445.69         18.77         -         424.91           09/25/02         438.68         Well not sampled - frozen shut         90/25/02           09/25/02         13.77         -         422.41           09/20/03         16.24         present         422.42           09/20/04         15.32         0.04         422.79           04/19/05         16.87         0.10         421.89           09/90/5/04         15.25         -         422.46           09/16/04         16.87         0.10         421.89		Date	Elevation	Water	LNAPL	Elevation <sup>1</sup>
TH-1         06/24/02         440.41         17.80         -         422.81           09/25/02         15.46         -         424.95           09/29/03         17.95         -         422.46           09/03/03         14.99         -         425.42           03/10/04         18.06         -         422.35           03/10/04         18.55         -         421.83           09/08/05         18.57         -         423.84           09/12/07         445.69         16.77         -         423.95           03/14/07         18.57         -         421.83           09/12/07         445.69         16.79         -         428.90           04/04/08         18.73         -         426.91           04/29/03         13.22         -         424.91           04/29/03         13.22         -         425.46           03/10/04         16.31         0.02         422.39           04/19/05         15.03         0.03         423.67           04/29/03         16.79         0.11         421.98           09/16/06         14.70         -         422.43           09/9/16/06         14.70	Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
Num         09/25/02         15.46         -         424.95           04/29/03         17.95         -         422.46           09/03/03         14.99         -         422.42           03/10/04         18.06         -         422.35           09/15/04         17.67         -         422.74           04/19/05         18.55         -         421.83           09/16/04         18.68         -         421.83           09/16/04         18.68         -         421.83           09/12/07         445.69         16.79         -         426.91           04/20/06         18.78         -         421.84           09/25/02         048.68         Well not sampled - frozen shut           09/25/02         13.77         -         424.91           09/25/02         16.87         0.10         422.89           09/15/04         15.92         0.04         422.79           04/90/05         16.87         0.10         421.98           09/76/04         15.92         0.04         422.89           09/76/04         16.79         0.11         421.98           02/06/07         Well not sampled - monument cover frozen shu	TH-1	06/24/02	440.41	17.80		422.61
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09/03/03         14.99          425.42           03/10/04         18.06          422.35           09/15/04         17.67          422.35           09/07.005         18.55          421.86           09/07.006         18.58          421.83           09/14/06         18.68          423.95           03/14/07         18.57          421.84           09/25/02         438.68         Well not sampled - frozen shut           09/25/02         13.77          424.91           04/20/03         16.24         present         422.49           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.11         421.98           09/06/05         15.03         0.03         423.67           04/20/06         14.70         -         423.98           02/06/07         Well not sampled - monument cover frozen shut         0/14/07           04/20/08         16.92         -         428.89 <th></th> <th>04/29/03</th> <th></th> <th>17.95</th> <th></th> <th>422.46</th>		04/29/03		17.95		422.46
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0908/05         16.77         -         423.64           04/20/06         18.58         -         421.83           0914/07         18.57         -         421.84           0912         18.57         -         421.84           0912         435.69         16.77         -         428.90           04/04/08         18.78         -         426.91           04/29/03         16.24         present         422.44           09/03/03         13.22         -         425.46           03/10/04         16.31         0.02         422.39           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/15/04         15.03         0.03         423.67           04/20/06         16.79         0.11         421.98           09/13/07         443.88         14.99         -         422.43           05/18/07         16.25         -         422.43           05/18/07         16.58         0.03         427.32           01/29/08         16.58         0.03         427.32           01/29/08         16.68         0.04		04/19/05		18.55		421.86
04/20/06         18.58         -         421.83           09/14/06         16.46         -         423.95           03/14/07         445.69         16.79         -         428.90           04/04/08         438.68         Well not sampled - frozen shut         426.91           09/25/02         13.77         -         424.91           09/303         16.24         present         422.44           09/303         13.22         -         425.46           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/15/04         15.92         0.04         422.79           04/19/05         16.67         0.11         421.98           09/13/07         Well not sampled - monument cover frozen shut         0314/07         Well not sampled - monument cover frozen shut           03/14/07         Well not sampled - monument cover frozen shut         04/30/07         16.25         -         422.43           03/14/07         443.88         14.99         -         428.89         10/15/07         16.55         0.03         427.32           02/15/08         16.68         0.04         427.23         04/24.72		09/08/05		16.77		423.64
09/14/06         16.46         -         423.95           03/14/07         18.57         -         421.84           09/12/07         445.69         16.79         -         428.90           04/04/08         18.78         -         426.91           09/25/02         438.68         Well not sampled - frozen shut         422.41           09/25/02         13.77         -         424.91           04/29/03         16.24         present         422.39           03/10/04         16.31         0.02         422.39           03/15/04         15.92         0.04         422.93           09/08/05         15.03         0.03         433.67           04/20/06         16.79         0.11         421.99           02/06/07         Well not sampled - monument cover frozen shut         04/30/07         16.25         -         422.43           05/18/07         443.88         14.99         -         428.89           10/15/07         443.88         14.99         -         428.87           01/29/08         16.58         0.03         427.32           02/06/07         436.92         13.67         -         428.97           04/04/08 <th></th> <th>04/20/06</th> <th></th> <th>18.58</th> <th></th> <th>421.83</th>		04/20/06		18.58		421.83
03/14/07 09/207         445.69 445.69         18.57 16.79 200         421.89 26.91           TH-2         06/24/02         438.68         Well not sampled - frozen shut 09/25/02         13.77 422.91           04/29/03         16.24         present 09/03/03         13.22 422.91           04/29/03         16.31         0.02         422.39           09/15/04         15.92         0.04         422.73           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.67           04/19/06         14.70         -         422.89           09/14/06         14.70         -         422.43           05/18/07         Well not sampled - monument cover frozen shut 04/30/07         16.25         -         422.43           05/18/07         143.88         14.99         -         422.89           10/15/07         15.51         -         422.43           02/23/08         16.68         0.03         427.32           04/04/08         16.92         -         426.96           TH-4         06/24/02         436.92         13.67         -         423.92           04/29/03		09/14/06		16.46		423.95
09/12/07         445.69         16.79          428.90           TH-2         06/24/02         438.68         Well not sampled - frozen shut         424.91           09/25/02         13.77         -         424.91         425.46           09/30/3         13.22         -         425.46           09/30/3         13.22         -         425.46           09/15/04         16.87         0.10         421.39           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.67           04/19/05         16.79         0.11         421.99           09/08/05         15.03         0.03         423.67           04/20/06         14.70         -         422.43           05/14/07         16.55         -         422.43           05/18/07         15.51         -         422.68           09/13/07         1443.88         14.99         -         428.97           01/15/07         15.51         -         426.96           09/25/02         12.20         -         426.96           09/25/02         12.20         -         426.92           <		03/14/07		18.57		421.84
04/04/08         18.78         -         426.91           TH-2         06/24/02         438.68         Well not sampled - frozen shut         09/25/02           09/25/02         13.77         -         424.91           09/30/3         13.22         -         425.46           03/10/04         16.31         0.02         422.39           04/19/05         15.03         0.03         423.67           04/19/05         15.03         0.03         423.67           04/20/06         16.79         0.11         421.98           09/14/06         14.70         -         422.83           02/06/07         Well not sampled - monument cover frozen shut         03/14/07         Well not sampled - monument cover frozen shut           04/30/07         16.25         -         422.48         09/13/07           05/18/07         16.60         -         422.89           10/15/07         16.68         0.03         427.32           02/13/08         16.68         0.03         427.32           09/13/07         443.82         14.99         -         422.96           TH-4         06/24/02         436.92         13.67         -         422.92		09/12/07	445.69	16.79		428.90
TH-2         06/24/02         438.68         Well not sampled - frozen shut           04/29/03         13.77         -         424.91           04/29/03         16.24         present         422.44           09/03/03         13.22         -         425.46           03/10/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.79           04/19/06         16.79         0.11         421.98           09/08/05         16.07         0.11         421.98           09/14/06         16.79         0.11         422.43           05/18/07         16.25         -         422.43           05/18/07         16.58         0.03         427.32           04/30/08         16.58         0.03         427.32           04/04/08         16.92         -         428.89           10/15/07         15.51         -         422.43           09/25/02         12.20         -         423.72           04/04/08         16.92         -         422.92           09/25/02         12.20         -         422.83 <th></th> <th>04/04/08</th> <th></th> <th>18.78</th> <th></th> <th>426.91</th>		04/04/08		18.78		426.91
09/25/02         13.77         -         422.41           09/03/03         16.24         present         422.44           09/03/03         13.22         -         425.46           03/10/04         16.31         0.02         422.39           09/15/04         15.92         0.04         422.39           09/15/04         15.92         0.04         422.39           09/16/05         16.67         0.11         421.89           09/08/05         15.03         0.03         423.67           04/19/06         14.70         -         422.43           09/14/06         14.70         -         422.88           09/13/07         Well not sampled - monument cover frozen shut         03/14/07           04/30/07         16.00         -         422.43           05/18/07         15.51         -         428.87           01/15/07         15.51         -         428.87           01/29/08         16.58         0.03         427.32           02/13/08         16.68         0.04         422.23           09/25/02         13.67         -         422.92           09/03/03         11.67         -         423.95 </th <th>TH-2</th> <th>06/24/02</th> <th>438.68</th> <th>Well not</th> <th>sampled - froz</th> <th>en shut</th>	TH-2	06/24/02	438.68	Well not	sampled - froz	en shut
04/29/03         16.24         present         422.46           09/03/03         13.22         -         425.46           03/10/04         16.31         0.02         422.39           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.88           09/08/05         15.03         0.03         423.67           04/20/06         14.70         -         422.43           02/06/07         Well not sampled - monument cover frozen shut         03/14/07         Well not sampled - monument cover frozen shut           04/30/07         16.25         -         422.43           05/18/07         16.00         -         422.43           05/18/07         16.58         0.03         427.32           01/15/07         16.58         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92         -         422.05           03/10/04         14.80         -         422.06           Well decommissioned for railroad construction on 8/19/2004         14.86         -         422.06           Well decommissioned for railroad construction on 8/19/2004         14.86 <th></th> <th>09/25/02</th> <th></th> <th>13.77</th> <th></th> <th>424.91</th>		09/25/02		13.77		424.91
09/03/03         13.22          422.38           03/10/04         16.31         0.02         422.39           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.67           04/20/06         16.79         0.11         421.89           09/14/06         14.70         -         423.98           02/06/07         Well not sampled - monument cover frozen shut         03/14/07           03/14/07         Well not sampled - monument cover frozen shut         04/30/07           04/20/07         16.25         -         422.43           05/18/07         16.51         -         428.89           10/15/07         15.51         -         428.37           01/129/08         16.68         0.03         427.23           02/13/08         16.692         -         422.26           09/25/02         12.20         -         422.95           09/25/02         12.20         -         422.39           09/25/02         12.20         -         422.92           09/03/03         11.67         -         422.98           09/25/02         12.79         present <t< th=""><th></th><th>04/29/03</th><th></th><th>16.24</th><th>present</th><th>422.44</th></t<>		04/29/03		16.24	present	422.44
03/10/04         16.31         0.02         422.79           09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.67           04/20/06         16.79         0.11         421.89           09/14/06         14.70         -         423.98           02/06/07         Well not sampled - monument cover frozen shut         03/14/07         16.25         -         422.43           04/30/07         16.25         -         422.43         05/18/07         16.00         -         422.88           09/13/07         443.88         14.99         -         428.89         10/15/07         15.51         -         428.73           01/15/07         15.51         -         422.32         02/13/08         16.68         0.04         427.23           02/13/08         16.68         0.04         422.22         09/03/03         11.67         -         422.22           09/03/03         11.67         -         422.06         03/10/04         14.86         -         422.02           09/03/03         12.17         present         422.48 <td< th=""><th></th><th>09/03/03</th><th></th><th>13.22</th><th></th><th>425.46</th></td<>		09/03/03		13.22		425.46
09/15/04         15.92         0.04         422.79           04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.67           04/20/06         16.79         0.11         421.98           09/14/06         14.70          423.98           02/06/07         Well not sampled - monument cover frozen shut         03/14/07           03/14/07         Well not sampled - monument cover frozen shut         04/30/07           04/30/07         16.25          422.83           05/18/07         16.60          422.68           09/13/07         443.88         14.99          428.89           10/15/07         15.51          422.72           01/29/08         16.68         0.04         427.32           02/25/02         12.20          426.96           TH-4         06/24/02         436.92         13.67         -         422.22           09/03/03         11.67         -         422.22         04/29/03         14.70         -         422.22           09/03/03         12.17         present         422.48         09/03/03         15.14		03/10/04		16.31	0.02	422.39
04/19/05         16.87         0.10         421.89           09/08/05         15.03         0.03         423.87           09/14/06         14.70          423.98           02/06/07         Well not sampled - monument cover frozen shut         03/14/07           03/14/07         Well not sampled - monument cover frozen shut         04/30/07           05/18/07         16.25          422.43           05/18/07         15.51         -         428.89           00/13/07         443.88         14.99          428.37           01/15/07         15.51         -         428.37           01/29/08         16.58         0.03         427.32           02/13/08         16.92         -         426.56           TH-4         06/24/02         436.92         13.67         -         423.25           03/10/04         14.86         -         422.20         424.72           04/29/03         11.67         -         422.85           03/10/04         14.86         -         422.06           Well decommissioned for railroad construction on 8/19/2004         424.83         04/29/03           04/19/05         15.72         -		09/15/04		15.92	0.04	422.79
D9/08/05         15.03         0.03         423.67           04/20/06         16.79         0.11         421.98           09/14/06         14.70         -         423.98           02/06/07         Well not sampled - monument cover frozen shut         423.67           03/14/07         Well not sampled - monument cover frozen shut         422.43           05/18/07         16.25         -         422.83           05/18/07         16.00         -         422.68           09/13/07         443.88         14.99         -         428.37           01/129/08         16.58         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92         -         428.95           TH-4         06/24/02         436.92         13.67         -         422.22           09/03/03         11.67         -         422.22         09/03/03           09/25/02         12.20         -         422.06           Well decommissioned for railroad construction on 8/19/2004         424.72           04/29/03         15.14         -         422.98           09/25/02         12.79         present         422.48		04/19/05		16.87	0.10	421.89
U4/20/06         16.79         0.11         421.98           09/14/06         14.70         -         423.98           02/06/07         Well not sampled - monument cover frozen shut         04/30/07         16.25         -         422.43           05/18/07         16.00         -         422.43         05/18/07         16.00         -         422.43           05/18/07         16.00         -         422.43         04/20/07         15.51         -         428.89           10/15/07         15.51         -         428.37         01/29/08         16.68         0.03         427.32           02/13/08         16.92         -         428.98         10/15/07         12.20         -         424.72           09/25/02         12.20         -         424.72         04/29.72         04/29.72         04/29.72           09/25/02         12.20         -         422.22.06         Well decommissioned for railroad construction on 8/19/2004           TH-5         06/24/02         437.62         13.64         -         422.39           09/03/03         12.17         present         422.48         04/29.03           09/15/04         14.84         -         422.78		09/08/05		15.03	0.03	423.67
Obj: 14/06         14/0		04/20/06		10.79	0.11	421.98
O2/06/07         Well not sampled - individual cover frozen shut           03/14/07         Well not sampled - monument cover frozen shut           04/30/07         16.25          422.43           05/18/07         16.00          422.88           09/13/07         443.88         14.99          428.89           10/15/07         15.51          428.37           01/129/08         16.58         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67          423.25           09/25/02         12.20         -         425.25         03/10/04         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         14.86          423.98           09/25/02         12.17         present         425.45         425.45           03/10/04         NM         0.03         NM           09/15/04         15.72		09/14/00	Woll n	14.70	 umont covor fr	423.90
Od/30/07         Over for sampled - indicating to the indicating tot the indicating to the indicating to the indicating to t		02/00/07	Wellin	ot sampled - mon	ument cover fi	
05/18/07         16.00          422.68           09/13/07         443.88         14.99          428.89           10/15/07         15.51          428.37           01/29/08         16.68         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67          422.22           09/25/02         12.20          424.72         04/29/03           04/29/03         11.67          422.06           Well decommissioned for railroad construction on 8/19/2004         Well decommissioned for railroad construction on 8/19/2004           TH-5         06/24/02         437.62         13.64         -         423.98           09/25/02         12.79         present         422.48         04/2004           09/25/02         15.14         present         422.48           09/03/03         12.17         present         422.78           03/10/04         NM         0.03         NM           09/15/04         14.84         -         422.78		04/30/07	wenn	16 25		422 43
OB/13/07         443.88         14.99          428.89           10/15/07         15.51          428.37           01/29/08         16.58         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67          423.25           09/25/02         12.20          422.22         09/03/03         11.67          422.22           09/03/03         11.67          422.26         424.72         04/22.06           Well decommissioned for railroad construction on 8/19/2004         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         15.14         present         422.48           09/03/03         15.14         present         422.48         09/03/03           09/03/03         15.14         present         422.48           09/03/03         15.72          421.9           09/03/05         13.95         0.02         423.89           04/19/05         15.74          422.78      <		05/18/07		16.00		422.40
10015/07         1000		09/13/07	443 88	14 99		428 89
01/29/08         16.58         0.03         427.32           02/13/08         16.68         0.04         427.23           04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67         -         423.25           09/25/02         12.20          424.72         424.72           04/29/03         14.70         -         422.22           09/03/03         11.67         -         422.22           09/03/03         11.67         -         423.98           09/25/02         12.79         present         422.48           09/25/02         12.79         present         422.48           09/03/03         15.14         present         422.48           09/03/03         12.17         present         422.48           09/03/03         12.17         present         422.48           09/03/03         12.17         present         422.48           09/08/05         13.95         0.02         423.99           04/19/05         15.72         -         421.9           09/08/05         13.95         0.02         423.69           04/20/06		10/15/07	110.00	15 51		428 37
02/13/08         16.68         0.04         427.23           04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67         -         423.25           09/25/02         12.20         -         424.72         424.72           04/29/03         14.70         -         422.22           09/03/03         11.67         -         425.25           03/10/04         14.86         -         422.06           Well decommissioned for railroad construction on 8/19/2004          424.83           09/25/02         12.79         present         422.48           09/03/03         15.14         present         422.48           09/03/03         12.17         present         422.48           09/03/03         12.17         present         422.48           09/03/03         12.17         present         422.48           09/03/03         15.14         present         422.48           09/03/03         12.17         present         422.48           09/04/05         13.95         0.02         423.69           04/19/05         15.72         -         421.9		01/29/08		16.58	0.03	427 32
04/04/08         16.92          426.96           TH-4         06/24/02         436.92         13.67          423.25           09/25/02         12.20          424.72         424.72           04/29/03         14.70          422.22           09/03/03         11.67          425.25           03/10/04         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         11.67            TH-5         06/24/02         437.62         13.64          423.98           09/25/02         12.79         present         424.83         04/29/03           04/29/03         15.14         present         422.48           09/03/03         12.17         present         422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          422.73           04/20/06         15.12          422.73           02/06/07         15.41          422.73           12/22/06         15.12 <t< th=""><th></th><th>02/13/08</th><th></th><th>16.68</th><th>0.04</th><th>427.23</th></t<>		02/13/08		16.68	0.04	427.23
TH-4         06/24/02         436.92         13.67          423.25           09/25/02         12.20          424.72           04/29/03         14.70          422.22           09/03/03         11.67          422.25           03/10/04         14.86          422.26           Well decommissioned for railroad construction on 8/19/2004          423.98           09/25/02         13.64          423.98           09/25/02         12.79         present         424.83           04/29/03         15.14         present         422.48           09/03/03         12.17         present         422.78           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          422.73           12/20/06         15.12          422.73           12/20/06         15.12          422.5           02/06/07         15.41		04/04/08		16.92	-	426.96
09/25/02         12.20          424.72           04/29/03         14.70          422.22           09/03/03         11.67          425.25           03/10/04         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         424.83          423.98           09/25/02         12.79         present         424.83         04/29/03           04/29/03         15.14         present         422.48           09/03/03         12.17         present         422.48           09/03/03         12.17         present         422.78           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           03/10/04         NM         0.03         NM           09/15/04         15.72          421.9           09/08/05         13.95         0.02         423.99           04/19/05         15.72          421.8           09/14/06         13.63          422.73           12/01/06         14.89          422.73           02/06/07         15.12<	TH-4	06/24/02	436.92	13.67		423.25
04/29/03         14.70          422.22           09/03/03         11.67          425.25           03/10/04         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         423.98           09/25/02         13.64          423.98           09/25/02         12.79         present         424.83           09/03/03         15.14         present         422.48           09/03/03         12.17         present         422.78           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           03/10/04         NM         0.03         NM           09/15/04         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          422.73           12/01/06         14.89          422.73           12/21/06         15.12          422.5           02/06/07         15.68          422.48           05/18/07         14.95          422.67		09/25/02		12.20		424.72
09/03/03 03/10/04         11.67 14.86          425.25 422.06           Well decommissioned for railroad construction on 8/19/2004           TH-5         06/24/02         437.62         13.64          423.98           09/25/02         12.79         present         424.83         04/29/03         15.14         present         422.48           09/03/03         12.17         present         422.75         03/10/04         NM         0.03         NM           09/15/04         14.84          422.78         04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69         04/20/06         15.74          422.78           09/15/04         14.89          422.73         12/01/06         13.63         -         422.73           09/08/05         13.95         0.02         423.99         12/01/06         15.68          422.73           12/01/06         15.12          422.5         02/06/07         15.41          422.67           02/16/07         15.68          422.46         05/18/07         14.95         -         422.67 <tr< th=""><th></th><th>04/29/03</th><th></th><th>14.70</th><th></th><th>422.22</th></tr<>		04/29/03		14.70		422.22
03/10/04         14.86          422.06           Well decommissioned for railroad construction on 8/19/2004         Well decommissioned for railroad construction on 8/19/2004           TH-5         06/24/02         437.62         13.64          423.98           09/25/02         12.79         present         424.83           04/29/03         15.14         present         422.48           09/03/03         12.17         present         422.78           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.88           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.46           05/18/07         15.68          422.46           05/18/07         14.95          422.839           10/15/07         14.41          428.89           1		09/03/03		11.67		425.25
Well decommissioned for railroad construction on 8/19/2004           TH-5         06/24/02         437.62         13.64          423.98           09/25/02         12.79         present         424.83           04/29/03         15.14         present         422.48           09/03/03         12.17         present         425.45           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          422.73           12/01/06         14.89          422.73           12/01/06         15.12          422.5           02/06/07         15.41          422.46           05/18/07         15.68          422.46           05/18/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41		03/10/04		14.86		422.06
TH-5         06/24/02         437.62         13.64          423.98           09/25/02         12.79         present         424.83           04/29/03         15.14         present         422.48           09/03/03         12.17         present         425.45           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.83           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.46           05/18/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.35           01/29/08         16.49		Well d	ecommissior	ned for railroad cor	nstruction on 8	3/19/2004
09/25/02         12.79         present         424.83           04/29/03         15.14         present         422.48           09/03/03         12.17         present         425.45           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          422.73           12/21/06         15.12          422.5           02/06/07         15.41          422.51           02/06/07         15.41          422.73           12/22/06         15.12          422.51           02/06/07         15.41          422.46           05/18/07         14.95          422.889           10/15/07         14.41          428.89           10/15/07         14.45          428.35           01/29/08         16.49          426.31	TH-5	06/24/02	437.62	13.64		423.98
04/29/03         15.14         present         422.48           09/03/03         12.17         present         425.45           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.8           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.51           03/14/07         15.68          422.73           12/22/06         15.12          422.67           03/14/07         15.68          422.67           03/14/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39           10/15/07         14.45          428.35		09/25/02		12.79	present	424.83
09/03/03         12.17         present         425.45           03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.46           05/18/07         15.16          422.46           05/18/07         14.95          422.839           10/15/07         14.41          428.89           10/15/07         14.41          428.35           01/29/08         16.49          428.31           02/13/08         15.58          426.31           02/13/08         15.59          426.90		04/29/03		15.14	present	422.48
03/10/04         NM         0.03         NM           09/15/04         14.84          422.78           04/19/05         15.72          421.9           09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.46           05/18/07         15.16          422.46           05/18/07         14.95          422.839           10/15/07         14.41          428.39           11/19/07         14.45          428.39           11/19/07         14.45          428.39           01/29/08         16.49          428.31           02/13/08         15.58          426.31           02/13/08         15.59          426.90		09/03/03		12.17	present	425.45
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		03/10/04		NM	0.03	NM
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		09/15/04		14.84		422.78
09/08/05         13.95         0.02         423.69           04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.21           03/14/07         15.68          422.46           05/18/07         15.16          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39           11/19/07         14.45          428.35           01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.90		04/19/05		15.72		421.9
04/20/06         15.74          421.88           09/14/06         13.63          423.99           12/01/06         14.89          422.73           12/22/06         15.12          422.5           02/06/07         15.41          422.21           03/14/07         15.68          421.94           04/30/07         15.16          422.67           05/18/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39         11/19/07           11/19/07         14.45          428.35         01/29/08         16.49          426.31           02/13/08         15.58          427.22         04/04/08         15.90          426.90		09/08/05		13.95	0.02	423.69
09/14/06       13.63        423.99         12/01/06       14.89        422.73         12/22/06       15.12        422.5         02/06/07       15.41        422.21         03/14/07       15.68        422.46         05/18/07       14.95        422.67         09/13/07       442.8       13.91        422.46         05/18/07       14.95        428.89         10/15/07       14.41        428.39         11/19/07       14.45        428.35         01/29/08       16.49        426.31         02/13/08       15.58        427.22         04/04/08       15.90        426.90		04/20/06		15.74		421.88
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		09/14/06		13.63		423.99
12/22/06       15.12        422.3         02/06/07       15.41        422.21         03/14/07       15.68        421.94         04/30/07       15.16        422.46         05/18/07       14.95        428.89         10/15/07       14.41        428.39         11/19/07       14.45        428.35         01/29/08       16.49        426.31         02/13/08       15.58        427.22         04/04/08       15.90        426.90		12/01/06		14.89		422.73
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		02/06/07		15.12		422.0
03/14/07         15.06          421.94           04/30/07         15.16          422.46           05/18/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39           11/19/07         14.45          428.35           01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.90		02/00/07		15.41		422.21
04/30/07         10.10          422.40           05/18/07         14.95          422.67           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39           11/19/07         14.45          428.35           01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.90		03/14/07		15.00		427.84
09/13/07         442.8         13.91          422.87           09/13/07         442.8         13.91          428.89           10/15/07         14.41          428.39           11/19/07         14.45          428.35           01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.90		05/18/07		14 95		422.40
10/15/07         14.41          428.39           11/19/07         14.45          428.31           01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.39		09/13/07	442 R	13 01		422.07
11/19/07     14.45      428.35       01/29/08     16.49      426.31       02/13/08     15.58      427.22       04/04/08     15.90      426.90		10/15/07		14 41		428.39
01/29/08         16.49          426.31           02/13/08         15.58          427.22           04/04/08         15.90          426.90		11/19/07		14 45		428.35
02/13/08 15.58 427.22 04/04/08 15.90 426.90		01/29/08		16.49		426.31
04/04/08 15.90 426.90		02/13/08		15.58		427.22
		04/04/08		15.90		426.90

# Table 1aGroundwater Elevation Data

Former Chevron 1001430 418 Illinois Fairbanks, Alaska

		Well	Depth to	Depth to	Groundwater
	Date	Elevation	Water	LNAPL	Elevation <sup>1</sup>
Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
TH-7	06/25/02	440.18	16.31		423.87
	09/25/02		15.31		424.87
	04/29/03		17.79		422.39
	09/03/03		14.81		425.37
	03/10/04		17.92		422.26
	09/15/04		17.47		422.71
	04/19/05		18.37		421.81
	09/08/05		16.55		423.63
	04/20/06		18.35		421.83
	09/14/06		16.23		423.95
	03/14/07		18.33		421.85
	09/12/07	445.34	16.53		428.81
	04/04/08		18.57		426.77
TH-10	06/24/02	438.62	14.58		424.04
	09/25/02		13.62		425.00
	04/29/03		16.03		422.59
	09/03/03		13.13		425.49
	03/10/04		16.18		422.44
	09/15/04		15.80		422.82
	04/19/05		16.65		421.97
	09/08/05		14.88		423.74
	04/20/06		16.66		421.96
	09/13/06		14.53		424.09
	03/14/07		16.61		422.01
	09/12/07	443.81	14.84		428.97
	04/04/08		16.82		426.99
TH-13	06/24/02	436.74	13.09		423.65
	09/25/02		12.02		424.72
	04/29/03		14.50		422.24
	09/03/03		11.45		425.29
	03/10/04		14.66		422.08
	09/23/04		N/A		N/A
	04/19/05		15.10		421.64
	09/08/05		13.37		423.37
	04/20/06	Well not	sampled - buried	under ice, mo	nument filled
	09/14/06		12.99		423.75
	03/14/07	441.04	15.09		421.00
	09/13/07	441.94	15.30		426.04
TU 47	00/04/00	405.00	11.00		400.70
IH-17	06/24/02	435.38	11.60		423.78
	09/25/02		11.39		424.79
	04/29/03		10.09		424.10
	03/10/04		13.20		423.3
	09/15/04		12 77		422.10
	04/19/05	Well not	sampled - buried	under ice mo	nument filled
	09/08/05		11 87		423 51
	04/20/06	Well not	sampled - buried	under ice mo	nument filled
	09/14/06		11.93		423 45
	03/14/07		13.65		421.73
	09/13/07	440.57	11.77		428.80
	04/04/08	Well	not sampled - m	onument und	lerwater
1	1	1			

# Table 1aGroundwater Elevation Data

## Former Chevron 1001430 418 Illinois

Fairbanks, Alaska

		Well	Depth to	Depth to	Groundwater			
	Date	Elevation	Water	LNAPL	Elevation <sup>1</sup>			
Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)			
TH-18	06/24/02	435.77	Well not	sampled - froz	en shut			
	09/25/02		11.01		424.76			
	04/29/03		Well not	sampled - froz	en shut			
	09/03/03		10.48		425.29			
	03/10/04		13.61		422.16			
	09/23/04	Wall pat	N/A		N/A			
	04/19/05	weirnot	12 28					
	03/00/05	Well not	sampled buried	under ice mo	423.43			
	09/14/06	weirnot	11 53		424 24			
	03/15/07		14.05		421 72			
	09/18/07	440 95	12 40		428 55			
	04/04/08	Well	not sampled - m	onument und	lerwater			
MIN/ 00	00/05/00	400.07	14.00		400.05			
10100-23	00/25/02	430.07	14.32		422.35			
	09/25/02		14.21		424.07			
	04/23/03		14.21		425.40			
	03/10/04		14.38		422.07			
	09/15/04		13.97		422.23			
	04/19/05		14 86		421.81			
	09/08/05		13.06		423.61			
	04/20/06		14.88		421.79			
	09/13/06		12.73		423.94			
	03/14/07	Well	not sampled - unde	er a large pile	of lumber			
	09/12/07	441.84	13.03		428.81			
	04/04/08		15.03		426.81			
MW-25	06/25/02	440 77	16 89	present	423 88			
	09/25/02	110.11	15.94	present	424.83			
	04/29/03		18.40	present	422.37			
	09/03/03		15.40	present	425.37			
	03/10/04		18.46	0.05	422.35			
	09/15/04		18.03	0.15	422.86			
	04/19/05		19.05	0.16	421.85			
	09/08/05		17.23	0.13	423.64			
	04/20/06		18.93	0.15	421.96			
	09/13/06		17.16	0.13	423.71			
	12/01/06		18.16		422.61			
	12/22/06		18.34		422.43			
	02/06/07		18.63	0.03	422.16			
	03/14/07		18.88	0.01	421.90			
	04/30/07		18.40		422.37			
	05/18/07	445.05	18.15		422.62			
	09/13/07	445.85	17.08		428.77			
	10/15/07		17.60		428.25			
	01/29/08		17.82		428.03			
	02/13/08		15.58		430.27 <b>426 77</b>			
	04/04/00		13.00		420.77			
Notes:								
TOC = Top of	casing							
fasl = feet abo	fasl = feet above sea level							
N/A = Not applicable								
LNAPL = Light non-aqueous phase liquid								
$1_{1}$	esults of mos	recent sam	pling event					
where LINAP	L was present	, groundwate	er elevation were a	iujustea using	an average			
	y UI U.OU.							
NM = Not Mea	asured							

#### Table 2a Groundwater Analytical Data

#### Former Chevron 1001430 418 Illinois Fairbanks, Alaska

			Fail	Dariks, A	aska			
								Total
Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Yvlenes
ADEC	GCL:	1.300	1.500	1.100	5.0	1.000	700	10.000
TH-1	06/24/02	3 160	103 000		1.61	<2.50	56.1	317
	09/25/02	1,510	7,400		2.73	3.52	48.4	325
	04/29/03	1,500	33.000	2,900	<2.0	< 0.5	27	120
	09/03/03	1,500	47.000	7,700	<2.0	< 0.5	27	160
	03/10/04	2,300	31,000	3,800	<2.0	< 0.5	30	160
	09/15/04	1,700	62.000	7,600	1.7	< 0.5	21	120
	04/19/05	1,200	64,000	<3,900	<2.0	< 0.5	15	68
	09/08/05	1,100	25.000	1,100	1.3	<0.5	16	95
	04/20/06	740	12,000	710	0.7	< 0.5	11	45
	09/14/06	860	13,000	<490	1.1	<0.5	12	69
	03/14/07	600	4,400	<210	<2	<1	8	30
	03/14/07 <sup>D</sup>	600	5,100	<200	<2	<1	8	30
	09/12/07	600	8,600	<200	1	<1	7	30
	09/12/07 <sup>D</sup>	500	7 800	<200	1	<1	6	20
	04/08/08	455	5,570	<750	0.813	<0.500	7.30	26.2
TH-2	06/24/02			Well	not sampled	l-frozen shi	ut	
	09/25/02	38,900	15,300		1,540	5,220	1,030	6,600
	04/29/03			LNAPL	present - w	ell not samp	oled	
	09/03/03	37,000	190,000	150,000	730	3800	860	6,600
	03/10/04			LNAPL pre	sent - 0.02'	- well not sa	ampled	
	09/15/04			LNAPL pre	sent - 0.04'	- well not sa	ampled	
	04/19/05			LNAPL pre	esent - 0.1' -	well not sa	mpled	
	09/08/05			LNAPL pre	sent - 0.03'	- well not sa	ampled	
	04/20/06			LNAPL pre	sent - 0.11'	- well not s	ampled	
	09/14/06	25,000	38,000	44,000	560	630	1,000	5,800
	03/14/07			Well not	t sampled-b	uried under	ice	
	09/13/07	30,000	98,000	62,000	600	2,300	800	5,600
	04/08/08	47,100	58,700	30,200	652	1,650	1,280	8,580
TH-4	06/24/02	178	3,490		5.49	1.21	1.45	19.1
	09/25/02	8,020	9,350		903	542	90.7	965
	04/29/03	11,000	41,000	3,500	970	1,200	73	1,200
	09/03/03	7,100	120,000	8,100	420	680	35	880
	03/10/04	14,000	150,000	10,000	1,600	940	82	1,300
			Well deco	ommissione	d for railroa	d construct	ion on 8/19/2004	
TH-5	06/24/02	1,100	34,500		6.05	1.45	18.3	98.1
	09/25/02			LNAPL	present - w	ell not samp	bled	
	04/29/03			LNAPL	present - w	ell not samp	oled	
	09/03/03			LNAPL	present - w	ell not samp	oled	
	03/10/04			LNAPL pre	sent - 0.03'	- well not sa	ampled	
	09/15/04	1,300	77,000	24,000	6.6	1.5	24	140
	04/19/05	1,100	180,000	<10,000	3.2	1.1	19	100
	09/08/05	4 200	050.000		sent - 0.02	- well not sa	ampied	400
	04/20/06	1,300	250,000	100,000	2.5	0.9	17	130
	09/14/00	700	7,700	28,000	2.0	0.0	9.0	50
	03/14/07	900	12,000	50,000 6 100	<10	<1	10	40
	04/08/08	300	13,000	Well n	ot sampler	l - ice in w	- í - II	40
TU 7	06/25/02	160	E 160	Weirin	4 25	<0.500	1.00	4.67
10-7	00/25/02	103	5,100 4,620		0.001	<0.500	<0.500	4.07
	09/25/02	260	4,030	2 800	1.0	<0.500	<0.500 0 0	2.40
	09/03/03	140	8,000	3,300	1.0	<0.5	3.6	2.5
	03/10/04	250	8 900	2,300	<2.0	<0.5	0.7	<1 5
	09/15/04	210	14 000	2,800	0.6	<0.5	<0.5	<1.5
	04/19/05	210	15,000	560	0.7	<0.5	<0.5	<1.5
	09/08/05	120	1,800	1,300	<0.5	<0.5	<0.5	16
	04/20/06	91	3,700	2,300	<0.5	<0.5	<0.5	<1.5
	09/14/06	100	790	430	0.6	<0.5	<0.5	<1.5
	03/14/07	50	1.200	480	<1	<1	<1	<2
	09/12/07	100	1,100	540	<1	<1	<1	<2
	04/08/08	82.2	932	<750	<0.500	<0.500	<0.500	1.50

#### Table 2a Groundwater Analytical Data

#### Former Chevron 1001430 418 Illinois

Fairbanks, Alaska

								Total
Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
TH-10	06/24/02	<50.0	236		<0.200	< 0.500	< 0.500	<1.00
	09/25/02	<80.0	144		<0.500	<0.500	<0.500	<1.00
	04/29/03	<10	320	1,000	<0.5	<0.5	<0.5	<1.5
	04/29/03	<10	220	1,000	<0.5	<0.5	<0.5	<1.5
	00/00/00	<10	300	2,000	<0.5	<0.5	<0.5	<1.5
	03/10/04	<10	300	1,600	<0.5	<0.5	<0.5	<1.5
	03/10/04 <sup>D</sup>	<10	290	1,000	<0.5	<0.5	<0.5	<1.5
	09/15/04	10	210	990	<0.5	<0.5	<0.5	<1.5
	09/15/04 <sup>D</sup>	<10	220	1 100	<0.5	<0.5	<0.5	<1.5
	04/19/05	<10	530	2,600	< 0.5	< 0.5	<0.5	<1.5
	04/19/05 <sup>D</sup>	<10	490	2,500	<0.5	< 0.5	<0.5	<1.5
	09/08/05	<10	230	1,500	< 0.5	< 0.5	<0.5	<1.5
	9/8/2005 <sup>D</sup>	<10	220	1,400	<0.5	<0.5	<0.5	<1.5
	04/20/06	<10	1,100	5,500	<0.5	< 0.5	<0.5	<1.5
	04/20/06 <sup>D</sup>	<10	620	2,900	<0.5	<0.5	<0.5	<1.5
	09/13/06	<10	110	600	<0.5	<0.5	<0.5	<1.5
	09/13/06 <sup>D</sup>	<10	140	790	<0.5	<0.5	<0.5	<1.5
	03/14/07	<10	350	1,200	<1	<1	<1	<2
	09/12/07	<10	200	1,000	<1	<1	<1	<2
	04/08/08	<50.0	214	<743	<0.500	<0.500	<0.500	<1.00
	04/08/08 <sup>D</sup>	<50.0	182	<735	<0.500	<0.500	<0.500	<1.00
TH-13	06/24/02	264	9,400		2.92	0.955	2.82	22.2
	09/25/02	87.0	2,180		2.28	<0.500	0.953	5.23
	04/29/03	1,100	16,000	2,100	84	1.3	5.8	30
	09/03/03	360	8,800	1,400	8.3	< 0.5	2	14
	03/10/04	1,600	30,000	2,200	120	10	16	75
	09/23/04	3,200	21,000	<400	200	30	43	190
	04/19/05	1,700	5 100	2 400	83	100	23 42	170
	04/20/06	1,700	Well	not sampled	d - buried un	der ice. mo	nument filled	170
	09/14/06	440	2.500	110	59	0.6	4.4	12
	03/15/07	300	2,000	480	60	<1	1	2
	09/13/07	500	3,000	<200	100	<1	4	7
	04/10/08	548	5,360	<735	89.0	1.26	4.56	22.3
TH-17	06/24/02	1,820	10,500		175	<2.50	104	234
	09/25/02	2,860	8,900		198	6.32	105	269
	04/29/03	5,000	23,000	6,900	57	9.5	270	860
	09/03/03	1,800	36,000	25,000	170	2.5	120	220
	03/10/04	1,200	44,000	10,000	17	3.5	79	150
	09/15/04	760	Well I	ot sampler	J - buried un	derice mo	nument filled	97
	09/08/05	990	8.900	4,100	13	2.0	49	140
	04/20/06		Well	not sampled	I - buried un	der ice, mo	nument filled	
	09/14/06	1,400	3,400	1,500	16	2.1	70	150
	03/15/07	1,500	4,100	580	4	2	50	100
	09/13/07	1,300	9,100	2,500	10	2	70	
	04/04/08		W	ell not san	pled - mor	nument un	derwater	
TH-18	06/24/02			Well r	ot sampled	- frozen sh	ut	
	09/25/02	1,930	4,730		277	<5.00	70.5	139
	04/29/03	0.000	0.000	Well F	rozen - wel	I not sample	ed	040
	09/03/03	2,600	3,300	000 1 400	290	ວ.4 ເຊຍ	120	210 240
	09/23/04	1 100	1,300	470	17	0.7	64	240 72
	04/19/05	1,100	Well i	not sampled	l - buried un	Iderice mo	nument filled	12
	09/08/05	1,300	1,400	510	56	2	71	140
	04/20/06	.,	Well	not sampled	I - buried un	der ice, mo	nument filled	
	09/14/06	2,200	1,300	<98	86	2.4	130	230
	03/15/07	2,100	1,800	130	40	1	100	100
	09/13/07	1,200	2,000	390	60	2	100	100
	04/04/08		w	ell not san	npled - mor	nument un	derwater	

#### Table 2a Groundwater Analytical Data

## Former Chevron 1001430 418 Illinois Fairbanks, Alaska

ir								
								Tetal
Wall	Data	CRO	DBO	BBO	Dontono	Taluana	Ethylhensene	i otai Yulonoo
Weil	Date	4 200	1 500	1 1 00	Benzene	1 oluene	Ethyidenzene	Aylenes
ADEC	GCL:	<50.0	1,300	1,100	0.020	1,000	<0.500	<1.00
IVI VV-23	00/25/02	< 90.0	1,370		0.230	<0.500	<0.500	< 1.00
	09/20/02	∿0U.U ⊿0	2,000	800	<0.500 0.6	<0.500	0.522	1.05
	04/29/03	40 77	2,000	000	0.0	<0.5	<b>~</b> 0.0	<1.0 2.3
	09/03/03	11	1,100	5 900	<0.5	<0.5	J.∠ ∠0 5	2.5
	00/15/04	20	9 300	2,600	<0.5	<0.5	<0.5	<1.5
	04/10/05	34	9,500	580	<0.5	<0.5	<0.5	<1.5
	04/19/03	31	1 000	580	<0.5	<0.5	<0.5	<1.5
	04/20/06	31	1,000	Well not a	∼u.u omnled - m	 onument flo		×1.5
	09/13/06	38	1 000					<15
	03/04/07	50	1,000	Well not	sampled-u	nder equinn		~1.5
	09/12/07	30	1 400	440	Sampicu u <1	<1	<1	<2
	04/08/08	<50.0	1,400	<758	<0.500	<0.500	<0.500	<1.00
MW-25	06/25/02		.,•.•		procent _ W			
101 00-23	00/25/02				present - w	ell not sam		
	04/29/03				present - w	all not sam		
	09/03/03				present - w	all not same		
	03/10/04				present - 0.05'	well not s	ampled	
	00/15/04				Sent - 0.00	- Well not e	ampieu	
	04/19/05			INAPL pre	Selic - 0.15		ampled	
	09/08/05				cont - 0.13	well not s	ampieu	
	04/20/06				sent - 0.15	- well not s	ampieu ampled	
	09/13/06				sent - 0.13	- well not s	ampled	
	03/14/07			INAPI nre	sent - 0.10	- well not s	ampled	
	09/13/07	1 300	1 700	210	10	2	30	100
	04/10/08	1,840	3,620	<721	11.3	3.50	36.8	142
Trip Blank	04/29/03	<10			<0.5	<0.5	<0.5	<1.5
	09/03/03	<10			< 0.5	< 0.5	< 0.5	<1.5
	03/10/04	<10			<0.5	<0.5	<0.5	<1.5
	09/15/04	<10			<0.5	<0.5	<0.5	<1.5
	04/19/05	<10			<0.5	<0.5	<0.5	<1.5
	09/08/05	<10			<0.5	<0.5	<0.5	<1.5
	04/19/06	<10			<0.5	<0.5	< 0.5	<1.5
	09/13/06	<10			<0.5	<0.5	<0.5	<1.5
	03/14/07	<10			<1	<1	<1	<2
	09/12/07	<10			<1	<1 -0 500	<1	<2
	04/06/06	<00.0			<0.500	<0.500	<0.500	<1.00
Notes:								
All results are	reported in mi	icrograms p	er liter (µg/	I)				
GRO = Gasoli	ne range orga	inics						
DRO = Diesel	range organic	S						
RRO = Residu	ual range orga	nics						
GCL = ADEC	18 AA 75 Gro	undwater C	leanup Leve	el				
LNAPL = Light	t non-aqueous	s phase liqu	id					
Bold Type = R	esults of mos	t recent san	nping event					
Highlighted co	ncentrations a	are greater t	han the app	olicable ADE	EC GCL.			
D D ITTE	and the second sec							

<sup>D</sup> = Duplicate sample "--" = Analyte not included in sampling event

#### Table 1b Groundwater Elevation Data

#### Former Texaco 211815 410 Driveway Street Fairbanks, Alaska

		Woll	Dopth to	Donth to	Groundwater
Mall	Data	Flowetien	Creundwater	Depth to	Groundwater
Veli	Date	Elevation (feel)	(feet from TOC)	LINAPL (foot)	Lievation (feel)
1D AP-91	06/25/02	(135)	13.28	(ieel)	(IdSI) 423.71
AIX-01	09/24/02	430.33	12 34		424.65
	04/29/03		14 82		422.17
	09/03/03		11.83		425.16
	03/10/04			Well Frozen	
	09/16/04		14.53		422.46
	04/19/05		15.43		421.56
	09/07/05		13.60		423.39
	04/20/06		15.46		421.53
	09/12/06		13.30		423.69
	03/15/07		15.40		421.59
	09/10/07	444.44	13.61		430.83
	04/04/08		15.62		428.82
AR-82	06/25/02	437.47	13.64		423.83
	09/24/02		12.69		424.78
	04/29/03		15.13		422.34
	09/03/03		12.17		425.30
	Well Re	emoved from	Sampling Program	n in September 20	003
AR-85	06/25/02	437.23	13.45		423.78
	09/24/02		12.49		424.74
	04/29/03		15.00		422.23
	09/03/03		12.00		425.23
	03/10/04		We	ell Beneath Snow	bank
	09/16/04		14.68		422.55
	04/19/05		Well buried	and surrounded b	by equipment
	09/07/05		13.79		423.44
	04/20/06		15.61		421.62
	09/12/06		13.45		423.78
	03/14/07	444.05	VVell	buried under snow	w bank
	09/10/07	444.65	13.74		430.91
	04/04/08		15.79		428.86
MW-1	10/23/03	436.36	12.28		424.08
	03/10/04		14.14		422.22
	09/16/04		13.72		422.64
	04/19/05		We	ell Beneath Snow	bank
	09/07/05		12.77		423.59
	04/20/06		VVell buried	and surrounded i	by equipment
	09/12/06		12.47		423.89
	03/15/07	441.46	14.57		421.79
	09/10/07	441.46	12.70 Well pet eet		428.70
	04/04/00		wen not sa	npieu - monumei	it under water
MW-2	10/23/03	437.06	13.35		423.71
	03/10/04		14.89	0.04	422.20
	09/16/04		14.51	0.03	422.57
	04/19/05		15.47	0.10	421.67
	09/07/05		13.58 Well not compled	U.UT	423.49
	04/20/00		13 85		423.22
	00/11/00		13.00	0.01	423.22
	12/01/06		14 56		422.50
	12/22/06		14 80		422.26
	02/06/07		15.08		421.98
	03/16/07		15.31		421.75
	04/30/07		Well no	t sampled due to i	ce in well
	05/18/07		Well no	t sampled due to	ce in well
	09/10/07	442.23	13.56		428.67
	10/15/07		14.04		428.19
	11/19/07		14.10		428.13
	01/29/08		15.18		427.05
	02/13/08		15.24		426.99
	04/04/08		Well not sar	npled - absorber	t sock frozen

#### Table 1b **Groundwater Elevation Data**

# Former Texaco 211815 410 Driveway Street Fairbanks, Alaska

	1		,	1	1
		Well	Depth to	Depth to	Groundwater
Well	Date	Elevation	Groundwater	LNAPL	Elevation <sup>1</sup>
ID	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
	40/00/00	(1001)	40.00	(1001)	(100.00
10100-3	10/23/03	437.49	13.60		423.89
	03/10/04		15.39		422.10
	09/16/04		14.99		422.50
	04/19/05		15.88		421.61
	00/07/05		14.10		123 30
	03/01/03		45.07		420.00
	04/20/06		15.87		421.62
	09/12/06		13.78		423.71
	03/16/07		15.84		421.65
	09/10/07	442 67	14 07		428 60
	04/04/09		16.06		126.00
	04/04/00		10.00		420.01
MW-4	10/22/03	437.33	13.70	Present	423.63
	03/10/04		15.25	0.23	422.26
	00/16/04		14.05	0.20	422.20
	09/10/04		14.00	0.03	422.50
			well not sampled	I - covered with ice	e, monument filled
	04/19/05			with ice and wate	r
	09/07/05		13.92		423.41
	04/20/06		15 74	0.32	421 85
	00/44/00		10.14	0.02	400.44
	08/11/06		14.19		423.14
	09/12/06		13.63		423.70
	12/01/06		14.93		422.40
	12/22/06		15 11		422.22
	02/06/07		15.42		421.00
	02/00/07		15.45		421.90
	03/16/07		16.06	0.46	421.64
	04/30/07		15.15		422.18
	05/18/07		14.91		422.42
	00/10/07	442 52	13.01	VAC	128.61
	40/45/07	442.32	13.91	yes	420.01
	10/15/07		14.45		428.07
	11/19/07		Well	not gauged - inacc	essible
	01/29/08		Well	not gauged - inacc	essible
	02/13/08		Well no	aldenu - hannen t	to locate
	02/10/00		45.04		426 72
	04/04/08		15.81	15.80	426.72
MW-5	10/23/03	436.37	12.58		423.79
_	03/10/04		14 34		422.03
	00/16/04		12.02		422.05
	09/16/04		13.92		422.45
	04/19/05		well not sampled	- covered with ice	and ponded water
	09/07/05		13.01		423.36
	00/01/00				120.00
	04/20/06		well not compled	aguarad with inc	and nanded water
	04/20/06		weil not sampled	- covered with ice	and ponded water
	09/12/06		12.70		423.67
	03/15/07		15.78		420.59
	09/10/07	441.54	13.00		428.54
	04/04/09		Well not car	nnlod monumou	t underwater
	04/04/00		wen not sa	npieu - monumei	it under water
MW-7	10/03/05	438.12	13.96		424.16
	04/20/06		16.84		421.28
	04/20/00		10.04		400.00
	09/11/06		14.74		423.38
	03/16/07		16.78		421.34
	09/09/07	443.32	15.05		428.27
	04/04/08		17.08		426.24
	10/00/05		10.00		
MW-8	10/03/05	436.51	12.32		424.19
	04/20/06		15.23		421.28
	09/11/06		13.12		423.39
	03/16/07		15 18		421 33
	00/00/07	441.60	10.10		420.00
	09/09/07	441.69	13.41		428.28
	04/04/08		15.42		426.27
MW-9	10/03/05	436 39	12.18		424 21
11111-5	04/20/06	400.00	12.10		404.00
	04/20/00		10.00		421.33
	09/11/06		12.90		423.49
	03/16/07		14.99		421.40
	09/09/07	441 56	13 21		428 35
	04/04/09		15.29		426.29
	04/04/00		13.20		420.20
MW-10	10/03/05	437.32	12.98		424.34
	04/20/06		15.82		421.50
	09/11/06		13.66		423.66
	02/14/07		10.00		w bonk
	03/14/07		vvell	buried under show	
	09/09/07	442.52	13.98		428.54
	04/04/08		16.00		426.52
Notes:			I		
TO 0 T					

Notes: TOC = Top of casing fas! = feet above sea level N/A = Not applicable LNAPL = Light non-aqueous phase liquid "Where LNAPL was present, groundwater elevation were adjusted using an average specific gravity of 0.80. Bold Type = Results of most recent sampling event

# Table 2bGroundwater Analytical Data

### Former Texaco 211815 410 Driveway Street Fairbanks, Alaska

Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethvlbenzene	Xvlenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
AR-81	06/25/02	<50.0	1,130		0.920	<0.500	0.520	<1.00
	09/24/02	212	4,550		7.56	2.11	5.14	8.95
	04/29/03	150	2,300	1,000	2.5	<0.5	1	1.8
	09/03/03	140	2,000	2,400	3.1	<0.5	1.6	2.8
	03/10/04				Well Froze	n		
	09/16/04	69	2,200	3,200	1	<0.5	<0.5	<1.5
	04/19/05	110	2,000	3,700	0.8	<0.5	0.6	1.6
	09/07/05	68	1,400	1,200	0.5	<0.5	<0.5	<1.5
	04/20/06	95	3,100	160	0.6	<0.5	<0.5	<1.5
	09/12/06	100	900	310	0.7	<0.5	<0.5	<1.5
	03/15/07	100	1,800	250	<1	<1	<1	<2
	09/10/07	100	1,100	-714	< I 0 622	<0.500	<0.500	< <u>~</u> 1 10
	04/10/08	121	4,290	14</th <th>0.023</th> <th>&lt;0.500</th> <th>&lt;0.300</th> <th>1.10</th>	0.023	<0.500	<0.300	1.10
AR-82	06/25/02	219	72,800		0.200	< 0.500	0.525	6.33
	09/24/02	90.3	1,620		0.269	<0.500	<0.500	1.25
	04/29/03	3,500	390,000	<20,000	<2.5	<2.5	2.5	<25
	09/03/03	83	24,000	1,800	<0.5	1.1 	2.9	8.6
			well Remo	oved from Sa	ampling Pro	gram in Se	otember 2003	
AR-85	06/25/02	<50.0	964		<0.200	<0.500	<0.500	<1.00
	09/24/02	<50.0	958		0.268	<0.500	<0.500	<1.00
	04/29/03	<10	620	530	1	<0.5	<0.5	<1.5
	09/03/03	<10	640	510	0.5	<0.5	<0.5	<1.5
	09/03/03	<10	640	570	<0.5	<0.5	<0.5	<1.5
	03/10/04	10	000	Well I	Beneath Sn	ow bank	-0.5	-4 5
	09/16/04	12	880	1,300	2.2	<0.5	<0.5	<1.5
	09/16/04	13	900	1,300	2.2	<0.5	<0.5	<1.5
	04/19/05	.10	VV	ell buried ar	na surrouna	ed by equip	ment	.4 5
	09/07/05	<10	450	350	<0.5	<0.5	<0.5	<1.5
	9/7/2005	<10	630	910	<0.5	<0.5	<0.5	<1.5
	04/20/06	<10	850	1,200	< 0.5	< 0.5	<0.5	<1.5
	09/12/06	<10	480	200	<0.5	<0.5	<0.5	<1.5
	03/15/07	<10	450		liea-buriea l			~2
	09/10/07	<50.0	450	-725	~0 500	~0 500	-0.500	~2
	04/10/08 <sup>D</sup>	<50.0	522	<708	<0.500	<0.500	<0.500	<1.00
MW_1	10/23/03	07	8 200		<0.5	<0.5	<0.5	<1.5
14144-1	03/10/04	33	4 100	1 400	<0.5	<0.5	<0.5	<1.5
	03/10/04 <sup>D</sup>	35	6,000	1,400	<0.5	<0.5	<0.5	<1.5
	00/16/04	20	0,000 5 100	1,500	<0.5	<0.5	<0.5	<1.5
	04/10/04	29	<del>ا</del> مرير	not sampler	l -0.0 1 - huriad en	ow/ice (no ·		×1.0
	09/07/05	32	870	410		<0 5	<0.5	<15
	04/20/06	02	well not	sampled - c	overed with	ice and no	nded water	-1.0
	09/12/06	23	470	210	<0.5	<0.5	<0.5	<1.5
	03/15/07	<10	830	360	<1	<1	<1	<2
	09/10/07	20	520	160	<1	<1	<1	<2
	04/04/08	-	We	Il not samp	led - monu	ment under	rwater	I
	1							

# Table 2bGroundwater Analytical Data

Former Texaco 211815 410 Driveway Street Fairbanks, Alaska

Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
10100-2	10/23/03	48,000	40,000		2,000	6,000	960	6,000
	09/16/04				0.04 - well i 0.03' - well i	not sampled		
	04/19/05			INAPL -	0.03 - well n	of sampled		
	09/07/05			I NAPI -	0.1 - well i	not sampled	I	
	04/20/06		well n	ot sampled	- covered w	ith snow an	d aravel	
	09/12/06	8.000	22.000	<500	710	350	280	1.300
	03/15/07	6,600	7,100	170	500	100	200	900
	09/10/07	7,600	14,000	<200	700	600	200	1,400
	04/04/08		Well no	ot sampled	- absorben	t sock froz	en in well	
MW-3	10/23/03	36,000	11,000		1,600	2,500	570	6,300
	03/10/04	56,000	44,000	3,000	2,100	4,800	1,100	9,800
	09/16/04	38,000	59,000	<2,000	1,900	3,100	810	6,600
	04/19/05	13,000	40,000	<2,000	630	600	340	2,100
	09/07/05	17,000	24,000	2,900	1,400	1,200	330	2,400
	04/20/06	19,000	15,000	<500	1,100	960	500	3,100
	09/12/06	19,000	15,000	<490 400	1,400	1,000	520	3,200
	09/10/07	22,000	17,000	490 <490	900	500	400	2 100
	04/10/08	<b>33,300</b>	11,000	942	1,540	<b>2,080</b>	923	<b>6,000</b>
MW-4	10/22/03			LNAP	L - well not	sampled		,
	03/10/04			LNAPL -	0.23' - well ı	not sampled	l	
	09/16/04			LNAPL -	0.03' - well ı	not sampled	l	
	04/19/05	well	not sampled	- covered v	vith ice, mor	nument filled	d with ice and w	ater
	09/07/05	68,000	98,000	<2,000	3,200	7,700	1,300	10,000
	04/20/06			LNAPL -	0.32' - well ı	not sampled		
	09/12/06	64,000	26,000	<980	3,300	8,200	1,400	9,600
	03/16/07	00.000	07.000	LNAPL -	0.46' - well I	not sampled	4 400	0.000
	09/10/07	60,000	27,000	<490 Well net	3,000	7,900	1,400	9,800
MAA/ E	10/02/02	10.000	26.000	wenno			100	1 000
C-VVIVI	10/23/03	10,000	36,000	2 000	1,000	420	100	2,000
	03/10/04	22,000	9,800	2,000 <200	970	2,000	320	3,000
	04/19/05	22,000	well not	sampled - c	overed with	ice and no	nded water	5,500
	09/07/05	10 000	5 200	220	870	590	200	1 600
	04/20/06	,	well not	sampled - c	overed with	ice and por	nded water	.,
	09/12/06	9,700	2,900	<100	980	230	220	1,700
	09/12/06 <sup>D</sup>	9,500	3,000	<200	980	220	210	1.600
	03/15/07	16,000	6,900	<510	800	900	300	2,700
	03/15/07 <sup>D</sup>	16,000	7,900	<510	800	900	300	2,700
	09/10/07	6,500	5,200	<200	700	100	100	1,100
	09/10/07 <sup>D</sup>	6,000	5,000	<200	700	100	100	1,100
	04/04/08		We	ll not samp	led - monu	ment under	water	
MW-7	10/03/05	7,100	2,200	<97	1,700	<5.0	240	300
	04/20/06	4,600	2,300	200	450	6.9	170	480
	09/11/06	8,100	2,000	<98	1,800	9.4	280	450
	03/16/07	7,600	2,500	<100	1,400	9	200	300
	09/09/07	8,100	3,500	<200	1,800	10	300	700
-	04/10/08	8,650	4,730	<750	1,700	3.08	234	452
MW-8	10/03/05	2,900	1,500	720	390	39	96	290
	04/20/06	4,500	1,800	120	430	1.9	190	530
	03/16/07	3,300	1,400	300	410	10	120	33U 600
	03/10/07	2 200	2,000	210	300	20	200	300
	04/10/08	5,700	2,950	<750	458	6.92	191	525
1	0,000	0,100	2,000	2100	400	0.52		020

### Table 2b **Groundwater Analytical Data**

#### Former Texaco 211815 410 Driveway Street Fairbanks, Alaska

Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
MW-9	10/03/05	26	240	390	1	<0.5	<0.5	<1.5
	04/20/06	91	500	310	2.5	<0.5	<0.5	<1.5
	09/11/06	31	63	40	<0.5	<0.5	<0.5	
	03/16/07	700	580	340	2.0	<1	<1	<2
	09/09/07	<10	110	93	<1	<1	<1	<2
	04/10/08	92.7	538	<750	1.61	<0.500	<0.500	<1.00
MW-10	10/03/05	760	1,200	520	64	2	5	21
	04/20/06	450	1,400	390	25	<0.5	<0.5	1.7
	04/20/06 <sup>D</sup>	470	1,500	330	25	<0.5	<0.5	1.8
	09/11/06	670	1,300	250	64	0.8	0.5	2.7
	09/11/06 <sup>D</sup>	660	1,200	240	63	0.8	0.5	2.7
	03/15/07		W	ell not samp	bled-buried u	under snow	bank	
	09/09/07	700	1,500	240	70	<1	3	7
	04/10/08	498	1,150	<765	24.1	<0.500	<0.500	3.60
Trip Blank	10/23/03	<10			<0.5	<0.5	<0.5	<1.5
	03/10/04	<10			<0.5	<0.5	<0.5	<1.5
	09/16/04	<10			<0.5	<0.5	<0.5	<1.5
	04/19/05		Trave	el Blank sub	mitted unde	r COC for 1	001430	
	10/03/05	<10			<0.5	<0.5	<0.5	<1.5
	04/20/06	<10			<0.5	<0.5	<0.5	<1.5
	09/11/06	<10			<0.5	<0.5	<0.5	<1.5
	03/15/07	<10			<1	<1	<1	<2
	09/09/07	<10			<1	<1	<1	<2
	04/10/08	<50.0			<0.500	<0.500	<0.500	<1.00

Notes: All results are reported in micrograms per liter (µg/l)

GRO = gasoline range hydrocarbons DRO = diesel range hydrocarbons

RRO = residual range hydrocarbons

LNAPL = Light non-aqueous phase liquid

GCL = ADEC 18 AA 75 Groundwater Cleanup Level

Highlighted concentrations are greater than the applicable ADEC GCL.

<sup>D</sup> = Duplicate sample

Bold Type = Results of most recent sampling event "--" = Indicates analyte not included in sampling event

#### Table 1c Groundwater Elevation Data

#### Former Unocal 306456 328.5 Illinois Street Fairbanks, Alaska

		Well	Depth to	Depth to	Groundwater
	Date	Elevation <sup>1</sup>	Water	LNAPL	Elevation <sup>2</sup>
Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
GEL1	10/07/02	443.88	15.20	(1001)	428.68
0211	09/03/03	110.00	13.83	0.01	430.06
	04/23/04		17.41		426.47
	09/16/04		17.22	0.01	426.67
	04/20/05		18.13	0.01	425.75
	10/01/05		14.08		429.80
	04/18/06		14.00	all not comple	420.00
	04/16/06		44.00	en not sample	400.00
	09/17/06		14.98		428.90
	03/16/07		17.06	0.05	420.80
	09/12/07	443.91	15.28		428.63
	04/04/08		well not	sampled - ice	e in well
GEI-2	10/07/02	444.93	15.25		429.68
	09/03/03		13.94		430.99
	04/23/04		17.44		427.49
	09/16/04		17.22		427.71
	04/20/05		18.05		426.88
	10/01/05		15.1		429.83
	04/18/06		W	ell not sample	d
	09/17/06		15.92		429.01
	03/16/07	W	ell not sampled-cov	vered with equ	ipment
	09/12/07	444.84	16.21		428.63
	04/04/08		18.18	18.16	426.68
GEL3	10/07/02	444 29	14 7		429 59
OL-S	09/03/03	444.25	13.42		430.87
	04/23/04		16.78		427 51
	00/16/04		16.65		427.51
	03/10/04		10.00		427.04
	04/20/05		VV	ell not sample	
	10/01/05		14.55		429.74
	04/18/06		17.45		426.84
	09/16/06		15.35		428.94
	03/17/07		17.43		426.86
	09/11/07	444.29	15.65		428.64
	04/04/08		17.63		426.66
GEI-4	10/07/02	444.56	15.68	0.67	429.42
	09/03/03		13.64	0.01	430.93
	04/23/04		17.2		427.36
	09/16/04		17.01	0.01	427.56
	04/20/05		17.8		426.76
	10/01/05		14.77		429.79
	04/18/06		17.72		426.84
	09/16/06		15.61		428.95
	11/30/06		16.88	0.02	427.70
	12/22/06		17.13		427.43
	02/06/07		17.39		427.17
	03/17/07		17.65		426.91
	04/30/07		17.07		427.49
	05/18/07		16.87		427.69
	09/11/07	444.56	15.98		428.58
	10/15/07		16.48		428.08
	11/19/07		16.18		428.38
	01/29/08		17.10		427.46
	02/13/08		17.33		427.23
	04/04/08		17.90		426.66
GEI-5	10/07/02	441 93	12 35		429 58
02.0	09/03/03	111.00	11.11		430.82
	04/23/04			ell not sample	d
	09/16/04		14.26	-	427.67
	04/20/05		15.20		426.60
	10/01/05		10.24		420.09
	10/01/05		12.23		429./
	04/18/06		40.00	eii not sample	0 400.05
	09/16/06		12.98		428.95
	03/16/07		vveii not sampled	u due to dama	ige
	09/11/07	.	vveii not sampled	u due to dama	ige
	04/04/08		well not sampled	- well underv	vater

#### Table 1c Groundwater Elevation Data

#### Former Unocal 306456 328.5 Illinois Street Fairbanks, Alaska

		Well	Depth to	Depth to	Groundwater
	Date	Elevation <sup>1</sup>	Water	LNAPL	Elevation <sup>2</sup>
Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
GEI-6	10/07/02	441.83	12.2		429.63
	09/03/03		10.94		430.89
	04/23/04		W	ell not samnle	d
	09/16/04		14 15		427.68
	04/20/05		14.15	oll not comple	427.00
	10/01/05		12.00	en not sample	420.74
	10/01/03		12.09		429.74
	04/18/06		40.00	ell not sample	a 400.04
	09/16/06		12.82		429.01
	03/17/07	444.07	14.87		426.96
	09/11/07	441.97	13.11		428.80
	04/04/08		well not sampled	- well underv	vater
GEI-7	09/03/03	444.26	13.24	0.01	431.03
	04/23/04		17.07	0.41	427.52
	09/16/04		16.55	0.09	427.78
	04/20/05		18.11	0.93	426.89
	10/01/05		14.44	0.01	429.83
	04/18/06		W	ell not sample	d
	09/17/06		15.27		428.99
	02/06/07		Well not sampled	- Unable to lo	cate
	03/16/07	١	Nell not sampled-c	overed with fo	orklifts
	04/30/07		16.69		427.57
	05/18/07		16.48		427.78
	09/12/07	444.22	15.56		428.66
	10/15/07		16.14		428.08
	11/19/07		16.01		428.21
	01/29/08		17.19	0.09	427.10
	02/13/08		17.37	0.21	427.02
	04/04/08	v	Vell not sampled -	ice at 4.4 fee	t btoc
GEI-8	09/03/03	444.55	13.64		430.91
	04/23/04		17.15		427.4
	09/16/04		16.95		427.6
	04/20/05		17.77	0.14	426.89
	10/01/05		14.73		429.82
	04/18/06		17.71		426.84
	09/16/06		15.92		428.63
	11/30/06		16.85	0.01	427.71
	12/22/06		17.07		427.48
	02/06/07		17.35		427.2
	03/16/07		17.60		426.95
	04/30/07		Well not same	bled due to ice	
	05/08/07		Well not same	oled due to ice	
	09/11/07	444.54	15.87		428.67
	10/15/07		16.47		428.07
	01/29/08		17.48	0.04	427.09
	02/13/08		17.57	0.04	427.00
	04/04/08		Well not sample	d - inaccessi	ble
GEI-9	09/03/03	444.32	13.43	0.01	430.90
	04/23/04		16.87		427.45
	09/16/04		16.67		427.65
	04/20/05		17.47	0.01	426.86
	10/01/05		14.53		429.79
	04/18/06		17.39		426.93
	09/16/06		15.37		428.95
	03/17/07		17.41		426.91
	09/11/07	444.32	15.63		428.69
	04/04/08		17.62		426.70
GEI 40	10/01/05	112 10	13.74		120 74
GEFIU	04/1906	443.40	16.73		429.14
	09/16/06		14.20		420.75
	03/16/07		Well not samples	 Lunable to loo	ate
	09/09/07	443 31	14 58		428 73
	04/04/08		16 51		426.75
11	0-10-100	1	10.51		720.00

#### Table 1c Groundwater Elevation Data

#### Former Unocal 306456 328.5 Illinois Street Fairbanks, Alaska

		Well	Depth to	Depth to	Groundwater
	Date	Elevation <sup>1</sup>	Water	LNAPL	Elevation <sup>2</sup>
Well	Sampled	(fasl)	(feet from TOC)	(feet)	(fasl)
GEI-11	10/01/05	443.81	14.10		429.71
	04/18/06		17.58		426.23
	09/17/06		14.91		428.90
	11/30/06		16.30	0.14	427.62
	12/24/06		16.44		427.37
	03/16/07		16.96	0.02	426.87
	04/30/07		16.73	0.47	427.46
	05/18/07		16.30	0.20	427.67
	09/12/07	443.78	15.22		428.56
	10/15/07		15.81		427.97
	11/19/07		15.71		428.07
	01/29/08		16.83	0.03	426.97
	02/13/08		17.55	0.03 17 11	420.09
CEL 12	10/01/05	112 55	12.70		420.92
GEF12	04/1806	443.55	15.72		429.03
	09/16/06		14 61		428.94
	03/16/07		16.65	0.04	426.93
	09/09/07	443.52	14.89		428.63
	04/04/08		16.98	16.85	426.64
MW-2	10/01/05	444.07	14.43		429.64
	04/1806		17.47		426.60
	09/15/06		15.31		428.76
	03/17/07		17.36		426.71
	09/09/07	444.03	15.60		428.43
	04/04/08		17.60		426.43
MW-4	10/01/05	NS	W 00.00	ell not sample	d
	04/1606		20.63		
	03/16/07		20.60		
	09/09/07	447.09	18.82		428.27
	04/04/08		20.82		426.27
MW-5	10/01/05	444.05	14.3	-	429.75
14144-5	04/1806	444.00	17.33		426 72
	09/15/06		15.11		428.94
	03/16/07		17.31		426.74
	09/12/07	444.01	15.42		428.59
	04/04/08		17.44		426.57
MW-6	10/01/05	NS	W	ell not sample	d
	04/1806		20.26		
	09/15/06		18.11		
	03/16/07		20.23		
	09/11/07	446.92	18.53		428.39
	04/04/08		20.48		426.44
MW-13	09/09/07	443.29	14.76		428.53
	04/04/08	v	ell not sampled -	ICE at 4.5 fee	t btoc
K-5	10/01/05	443.55	13.82		429.73
	04/1806		W	ell not sample	d dog di
	02/16/07	\A/-!!	15.14		428.41
	03/10/07	443 75	15 02		428 73
	04/04/08	110.70	17.00		426.75
K 7	10/01/05	440.40	10 70		420.77
N-7	04/1806	442.49	16.92		425.57
	09/16/06		13.49		429.00
	03/16/07		Well not sampled	I-unable to loc	ate
	09/09/07	442.55	13.78		428.77
	04/04/08		Well not samp	led - ice in we	ell
Notes:			-		
TOC = Top of	casing				
tasl = feet abo	ve sea level				
N/A = Not app	licable				
INAPL = Light	non-aqueous	phase liquid			
Bold Type = R	esults of most	recent same	lina event		
btoc = below to	op of casing	. soon oump			
<sup>1</sup> Elevations are	e relative to an	on-site Tem	porary Benchmark	, based on ver	tical control
point Fire Hydr	ant 08-05.				
Where LNAP	was present	, groundwate	r elevation were ac	ljusted using a	an average
specific gravity	of 0.80.				

# Table 2cGroundwaterAnalytical Data

Former Unocal 306456

328.5 Illinois Ave.

Fairbanks, Alaska

								Total
Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
GEI-1	10/07/02	31,700	218,000		5,630	6,770	704	3,860
	09/03/03	00.000	44.000	LNAPL pre	sent - 0.01'	- well not sa	impled	0.000
	04/23/04	26,600	11,200		2,910	5,300 woll not sc	582	2,990
	04/20/05	35 300	307 000			- weil 110t Sa	649	3 620
	10/01/05	39,700	18 800	617	3 050	5 350	662	3 820
	04/18/06		,	Well no	t sampled -	not accessi	ble	0,020
	09/17/06	31,000	29,000	<970	3,200	4,500	540	3,100
	03/17/07	,	.,	LNAPL pre	sent - 0.05'	- well not sa	mpled	-,
	09/12/07	27,000	44,000	<2200	2,600	3,600	400	2,600
	04/04/08			Well n	ot sampled	l - ice in we		
GEI-2	10/07/02	170,000	86,500		15,100	56,200	3,810	22,000
	09/03/03	265,000	28,700		7,250	42,400	3,430	21,300
	04/23/04	150,000	17,900		7,500	39,700	3,140	17,900
	09/16/04	214,000	109,000		8,490	48,700	3,310	24,400
	04/20/05	196,000	88,700		7,520	49,800	3,490	23,100
	10/01/05	201,000			5,900	47,200	3,480	22,500
	04/18/06	219,000	33,100	904	5,510	46,200	3,380	24,100
	09/17/06	190,000	25,000	<970	0,000	42,000	3,300 uinmont	22,000
	03/17/07	170.000	75.000					20.000
	09/12/07	184 000	<b>45 700</b>	<3 750	4,900	<b>49 300</b>	3,100 3 520	20,000 22 200
CEL 2	10/07/02	26,600	101.000	<b>\\$,100</b>	470	2.070	220	12,000
GEI-3	09/03/03	35,800	82 700		86.0	3,070	122	7 840
	04/23/04	16 600	25 200		66.0	758	63.1	5 920
	09/16/04	23,000	52 300		44 0	903	138	9 640
	09/16/04				35.2	835	77.7	6.610
	04/20/05			Well no	t sampled -	not accessi	ble	-,
	10/01/05	18,200	58,300	1,500	30.1	485	67.8	5,940
	10/01/05	19,100			<50.0	468	<50.0	6,280
	04/18/06	21,700	70,300	1,220	28.3	1,290	173	6,970
	09/16/06	16,000	62,000	<2,000	20.0	280	61	5,100
	03/17/07	32,000	42,000	<2,000	30	1,200	200	6,700
	09/11/07	17,000	70,000	<2,000	20	800	200	5,500
	04/11/08	30,500	40,800	<3,540	<100	1,460	359	8,440
GEI-4	10/07/02			LNAPL pre	sent - 0.67	- well not sa	impled	
	09/03/03	3 720	30.200		30.7	- well 1101 Se	55 5	76 7
	09/16/04	0,720	30,200		sent - 0.01'	- well not sa	moled	70.7
	04/20/05	807	195.000		15.1	3.83	48.2	3.83
	10/01/05	2.560	44.000	601	13.4	<1.00	52.3	<1.00
	04/18/06	1,180	95,700	<8,060	15.2	2.18	66.4	2.18
	04/18/06	1,010			14.4	<0.500	53.6	<0.500
	09/16/06	1,400	39,000	<960	16	1.8	40	190
	03/17/07	1,400	54,000	<1,900	20	2	40	200
	09/11/07	2,700	100,000	<2,100	10	<10	70	300
	04/11/08	1,780	192,000	<4,120	15.0	<2.50	56.8	229
	04/11/08 <sup>0</sup>	2,140	215,000	<3,680	13.4	<10.0	60	268
GEI-5	10/07/02	12,400	47,600		2,310	813	119	1,660
	10/07/02	10,800			2,360	841	127	1,660
	09/03/03	10,100	68,000		1,420	205	32.9	650
	04/23/04	40.000	10.000	Well not	sampled -	not accessi	ole.	1 000
	09/16/04	7.050	71,500		2,330	549	00.3	1,200
	04/20/05 10/01/05	10,700	67,400	2 020	1,240	444	44.U 37 0	1,040
	04/19/06	10,700	07,400	2,020	1,430	239	31.0	922
	09/16/06	6 200	22,000	<500	910	200	45	850
	03/17/07	0,200	22,000	Well no	t sampled d	Lue to dama	de	000
	09/11/07			Well no	t sampled o	lue to dama	ae	
	04/04/08			Well not	sampled - v	vell underv	vater	
1		1			-			

# Table 2cGroundwaterAnalytical Data

### Former Unocal 306456

328.5 Illinois Ave.

	Fairbanks, Alaska							
								<b>T</b> ( 1
Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	i otal Xvlenes
ADEC	GCL:	1,300	1,500	1,100	5.0	1,000	700	10,000
GEI-6	10/07/02	58,800	5,790		1.26	1.95	<0.500	2.99
	09/03/03	<80	3,520	 Woll pot	0.717	<0.500	<0.500	<1.00
	09/16/04	58.8	7,580		0.758		<0.500	1.72
	04/20/05		,	Well not	sampled -	not accessil	ble.	
	10/01/05	<50	2,180	1,140	0.768	<0.500	<0.500	<1.50
	04/18/06	51	3 400	Well not	sampled -	not accessil	ble.	<15
	03/17/07	<10	800	770	<1	<0.5	<0.5	<2
	09/11/07	20	2,200	1,000	<1	<1	<1	<2
	04/04/08			Well not	sampled - v	vell underv	vater	
GEI-7	09/03/03			LNAPL pre	sent - 0.01'	- well not sa	Impled	
	04/23/04				sent - 0.41'	- well not sa	impled	
	04/20/05			LNAPL pre	sent - 0.03	- well not sa	impled	
	10/01/05	15,400	98,700	<4,240	299	2,180	246	2,560
	04/18/06			Well not	sampled -	not accessil	ble.	
	09/17/06	15,000	110,000	<2,000	360 polod buric	2,000	250	2,400
	09/12/07	13.000	79.000	<2200	300	1.800	300	2.100
	04/04/08		.,	Well n	ot sampled	I - ice in we	ll	,
GEI-8	09/03/03	11,000	83,900		38.4	342	229	2,350
	04/23/04	8,850	107,000		152	834	161	1,930
	09/16/04	6 920	575,000		22.7 14 Q	172	210	3,500 1 740
	10/01/05	7,520	59,100	983	15.6	91.0	105	1,710
	04/18/06	4,870	43,600	1,110	14.8	131	148	1,620
	09/16/06	4,200	27,000	<960	14	93	89	1,200
	03/17/07	4,900	11,000 48,000	290	20	100	100	1,400 1,300
	04/04/08	4,000	+0,000	Well no	t sampled	- inaccessi	ble	1,500
GEI-9	09/03/03			LNAPL pres	sent - 0.01'	- well not sa	mpled	
	04/23/04	1,030	51,600		5.01	29.0	12.2	161
	09/16/04	1,490	276,000		1.58	2.63	6.73	59.3
	04/20/05	1,460	93 900	<4 030	1.70	<0.500	7.31	41.9
	04/18/06	881	97,800	<7,940	2.02	<0.500	8.10	57.0
	09/16/06	410	56,000	<2,000	2.1	<0.5	6.6	36
	03/17/07	600	17,000	290	3	<1	10	70
	09/11/07 04/11/08	400 <b>397</b>	80,000 34 100	<1,900	<10	<10	<10 9.61	60 42 7
GEI-10	10/01/05	551	45,800	412	<0.500	<0.500	7 71	42.9
OLITO	04/18/06	689	43,400	510	<0.500	<0.500	40.0	135
	09/16/06	500	23,000	<500	<0.5	<0.5	13.0	53
	09/16/06 <sup>D</sup>	510	22,000	<500	<0.5	<0.5	13.0	
	03/17/07	700	10 000	Vell not	sampled - u	Inable to loo	10	40
	09/09/07 <sup>D</sup>	400	32,000	<200 <410	<10	<10	10	40 50
	04/12/08	640	18,700	<3,570	<2.50	<2.50	16.4	66.9
GEI-11	10/01/05	161,000	61,900	2,810	8,060	21,500	1,340	8,570
	04/18/06							
	09/17/06	92,000	55,000	<3,900	6,300	19,000	1,500	9,100
	09/12/07	100.000	93,000	<1900	5,100	- wen not sa 18,000	1,900	11,000
	04/12/08	101,000	439,000	<3,640	5,630	21,300	1,930	11,100
GEI-12	10/01/05	9,920	43,900	<410	233	478	290	2,040
	04/18/06	5,480	68,100	466	136	250	158	1,110
	09/16/06	6,200	56,000	<1,000	130	300 - well not so	150 moled	1,100
	09/09/07	5.000	63,000	< <u>2,000</u>	100	300	100	1,100
	04/12/08	4,900	126,000	<3,610	86.3	102	145	979

#### Table 2c Groundwater Analytical Data

#### Former Unocal 306456 328.5 Illinois Ave. Fairbanks, Alaska

	_							Total
Well	Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
ADEC	10/01/05	1, <b>300</b>	1,500	1,100	<b>5.0</b>	1,000	<u>700</u> <0.500	10,000
14144-2	04/18/06	500	918	<391	<0.500	<0.500	<0.500	<1.50
	09/15/06	14	260	490	< 0.5	< 0.5	<0.5	<1.5
	03/17/07	20	470	310	<1	<1	<1	<2
	09/09/07	<10	160	87	<1	<1	<1	<2
	09/09/07 <sup>D</sup>	<10	210	160	<1	<1	<1	<2
	04/12/08	<50.0	1,130	<708	<0.500	<0.500	<0.500	<1.00
MW-4	10/01/05							
	04/18/06	<500	<407	<407	<0.500	<0.500	<0.500	<1.50
	09/15/06	<10	98	200	< 0.5	< 0.5	<0.5	<1.5
	03/16/07	60 <10	85 65	110	<u>30</u>	<1	<1	<2
	04/11/08	<50.0	<106	<798	<0.500	<0 500	<0.500	<1 00
MW 5	10/01/05	16 200	E1 E00	660	245	1 620	270	2.070
IVI VV-5	04/18/06	21 500	114 000	<7.810	240	3,220	270	3,070
	09/15/06	18,000	42 000	<1,010	220	1 700	370	2 800
	09/15/06 <sup>D</sup>	18,000	77 000	<1,000	230	1,700	410	3 400
	03/17/07	.0,000	,000	Well no	sampled -	Sheen pres	ent	0,100
	09/12/07	14,000	53,000	<990	200	1,900	400	2,700
	04/12/08	29,700	165,000	<3,540	152	2,530	627	6,030
MW-6	10/01/05			Well not	sampled -	not accessi	ble.	
	04/18/06	624	1,120	<391	138	<0.500	10.0	7.50
	09/15/06	39	210	260	8.1	<0.5	1.0	<1.5
	03/16/07	200	280	170	30	<1	1	<2
	03/16/07 <sup>5</sup>	100	250	180	30	<1	1	<2
	09/11/07	40	300	280	7	<1	<1	<2
	04/11/08	77.1	1,100	50</th <th>17.4</th> <th>&lt;0.500</th> <th>&lt;0.500</th> <th>&lt;1.00</th>	17.4	<0.500	<0.500	<1.00
MW-13	08/03/07	40	44	51	1	<1	<1	<2
	09/09/07	70	70	63 Well n	2 of complet	<1 L ioo in wa	<1	<2
	04/04/08	10,100		weirn				
K-5	10/01/05	18,100	86,600	<4,030	<0.500	<0.500	2.26	7.56
	09/27/06	610	17 000	<480	<0.5	<0.5	0.5	<1.5
	03/17/07	010	V ,000	Vell not san	npled - unat	ble to remov	e cover	1.0
	09/09/07	1,800	110,000	<1,900	· <1	<1	2	10
	04/12/08	195	24,000	<3,680	<0.500	<0.500	0.758	2.80
K-7	10/01/05	<50	421	<417	<0.500	<0.500	<0.500	<1.50
	04/1806	429			<0.500	<0.500	1.71	5.28
	09/16/06	<10	72	250	<0.5	<0.5	<0.5	<1.5
	03/17/07	~100	71	vvell not	sampled - L		cate	<20
	09/09/07 04/04/08	<100	71	Well n	ot sampled	I - ice in we	ell site	<b>~</b> 20
Trip Blank	04/18/06	<50	421	<417	<0.500	<0.500	<0.500	<1 50
	09/14/06	<10			< 0.5	< 0.5	<0.5	<1.5
	09/14/06	<10			<0.5	<0.5	<0.5	<1.5
	03/17/07	<10			<1	<1	<1	<2
	09/09/07	<10			<1	<1	<1	<2
	04/11/08	<50.0			<0.500	<0.500	<0.500	<1.00
Notes:								
All results are	e reported in n	nicrograms	per liter (µg	/I)				
GRO = Gaso	line range org	anics						
	a range organi	ICS						
	ht non-aqueo	inius Is nhaeo liai	uid					
	aqueou	o pridoc ildi						

GCL = ADEC 18 AAC 75 Groundwater Cleanup Level Bold Type = Results of most recent sampling event Highlighted concentrations are greater than the applicable ADEC GCL.

<sup>D</sup> = Duplicate sample

---" = Analyte not included in sampling event

Table 3 Groundwater VOC and RCRA Metals Analytical Data

Former Chevron 1004130, 418 Illinois Street Former Texaco 211815, 401 Driveway Street Former Unocal 306456, 328.5 Illinois Ave. Fairbanks, Alaska

EPA I	Method:	8011				8260B				8021B				6010	)B/7470			
Well	Sample Date	1,2-dibromoethane	1,2-dibromoethane	1,1-dichloroethane	1,1,1-trichloroethane	carbon tetrachloride	1,2-dichloroethane	trichloroethene	tetrachloroethene	methyl tertiary butyl ether	Mercury	Arsenic	Selenium	Barium	Cadmium	Chromium	Lead	Silver
	ADEC GCL:	0.05	0.05	3,650	200	NL	5	5	5	NL	2	50	50	2,000	5	100	15	180
	10/00/08							Former	Chevron 1	001430								
1H-13	10/03/05 09/14/06 03/15/07 09/13/07 04/10/08	<0.0094 <0.0095 <0.0097 <0.0098 <0.010	<0.5 <1  <b>&lt;1.00</b>	<1 <0.5 <1 <1 <b>&lt;1.00</b>	<0.8 <0.8 <0.8 <0.8 <1.00	<1 <1 <1 <1 <b>&lt;1</b>	<1 <0.5 <1 <0.5 <1.00	<1 <1 <1 1 <1.00	<0.8 <0.8 <0.8 <0.8 <b>&lt;1.00</b>	<2.5   	<0.062 <0.056 <0.056 19.6 <0.200	14.0 15.6 14.7 <9.4 <100	<9.4 <9.4 <9.4 253.0 <150	271 258 283 <9.0 <b>252</b>	<0.97 <0.91 <0.91 2.3 <5.00	<4.8 <2.3 <2.3 <6.9 <10.0	<8.4 <6.9 <6.9 <1.6 <b>59.9</b>	<2.0 <1.6 <1.6  <b>&lt;10.0</b>
TH-17	10/03/05 09/14/06 03/15/07 09/13/07 <b>04/04/08</b>	<0.0088 <0.0096 <0.0097 <0.0097	<1 <0.5 <1 	<1 <0.5 <1 <1	<0.8 <0.8 <0.8 <0.8	<1 <1 <1 <1	<1 <0.5 <1 <0.5	<1 <1 1 1 Well	<0.8 <0.8 <0.8 <0.8 not samp	 <10   ed - monu	<0.062 <0.056 <0.056 36.7 ment und	39.9 33.3 31.9 <9.4 erwater	<9.4 <9.4 <9.4 715.0	330 338 388 7.6	<0.97 <0.91 <0.91 33.8	<4.8 4.7 5.5 16.4	<8.4 <6.9 <6.9 <1.6	<2.0 <1.6 <1.6
Trip Blank	10/03/05 04/20/06 09/13/06 03/14/07 09/12/07	<0.0094 <0.0096 <0.0098 <0.0099 <0.0099	<1 <0.5 <0.5 <1 	<1 <1 <1 <1 <1	<0.8 <0.8 <0.8 <0.8 <0.8	<1 <1 <1 <1 <1	<1 <0.5 <0.5 <1 <0.5	<1 <1 <1 <1 <1	<0.8 <0.8 <0.8 <0.8 <0.8	 <2.5  			1 1 1 1					
								Forme	r Texaco 2	11815								
AR-81	04/20/06									<2.5			-				-	
AR-85	04/20/06									<2.5								
MW-2	03/16/07 09/10/07	<0.0099 <0.0099	<0.5	<1 <1	<0.8 <0.8	<1 <1	<0.5 <0.5	<1 <1	<0.8 <0.8		<0.056 <0.056	55.0 47.9	<9.4 <9.4	774 521	<0.91 3.4	26.2 13.6	23.3 19.2	<1.6 <1.6
MW-3	10/03/05 04/20/06 09/12/06 03/16/07 09/10/07 04/10/08	<0.0094 <0.0097 <0.0096 <0.0097 <0.0099 <b>0.010</b>	<5 <1 <3 <1  <b>&lt;1.00</b>	<5 <2 <5 <2 <2 <2 <1.00	<4 <2 <4 <2 <2 <1.00	<5 <2 <5 <2 <2 <2 <1.00	<5 <1 <3 <1 <1 <b>10.2</b>	<5 3 7 <2 <2 2.33	<4 <2 <4 <2 <2 <1.00	 <100 <25  	<0.062 <0.062 <0.056 <0.056 0.072 < <b>0.200</b>	40.2 22.9 27.3 25.2 27.7 <100	<9.4 <9.4 <9.4 <9.4 <9.4 <9.4 <150	671 513 560 601 533 <b>429</b>	<0.97 3.7 2.5 <0.91 3.7 <5.00	36.2 8.5 9.9 11.5 10.9 < <b>10.0</b>	37.3 13.5 13 15.1 13.9 76.0	<2.0 2.5 <1.6 1.8 <10.0
MW-4	10/03/05 04/20/06	0.025	<10	<10	<8	<10	<10	<10 LN	<8 IAPL prese	 nt - 0.32' - w	0.075 vell not sar	56.3 npled	<9.4	866	1.1	56.7	130	<2.0
MW-7	10/03/05	<0.039	<3 <3	<5 <3	<4 <2	<5 <3	<3 <3	<5 <3	<4 <2		<0.056 0.062	25.8 162.0	<9.4 14.4	1,940	2.3	8.5 255	128	<1.6 <2.0
MW-8	10/03/05 04/20/06	 0.026 	 <1 	 <1 	 <0.8 	 <1 	 <1 	 <1 	 <0.8 	<50  <100	 <0.062 	 67.8 	 <9.4 	 1,300 	 3 	 140 	 114 	 <2.0 
MW-9	10/03/05 04/20/06	<0.0094	<1 	<1 	<0.8 	<1 	<1 	<1 	<0.8 	 <2.5	<0.062 	28.8 	<9.4 	965 	1.9 	93.3 	60.5 	<2.0 
MW-10	10/03/05 04/20/06 04/20/06 <sup>D</sup>	<0.0094  	<1  	<1  	<0.8  	<1  	<1  	<1  	<0.8  	 <10 <10	<0.062  	<u>113</u>  	<9.4  	1,760  	3.0  	317  	154  	<2.0  
Trip Blank	09/11/06 03/15/07 09/09/07	<0.0098  <0.0099	<0.5 <0.5 <1	<1 <1 <1	<0.8 <0.8 <0.8	<1 <1 <1	<0.5 <0.5 <0.5	<1 <1 <1	<0.8 <0.8 <0.8									

#### Table 3 Groundwater VOC and RCRA Metals Analytical Data

Former Chevron 1004130, 418 Illinois Street Former Texaco 211815, 401 Driveway Street Former Unocal 306456, 328.5 Illinois Ave. Fairbanks, Alaska

EPA I	Method:	8011				8260B				8021B				6010	B/7470			
Well	Sample Date	1,2-dibromoethane	1,2-dibromoethane	1,1-dichloroethane	1,1,1-trichloroethane	carbon tetrachloride	1,2-dichloroethane	trich lo roethene	tetrachloroethene	methyl tertiary butyl ether	Mercury	Arsenic	Selenium	Barium	Cadmium	Chromium	Lead	Silver
	ADEC GCL:	0.05	0.05	3,650	200	NL	5	5	5	NL	2	50	50	2,000	5	100	15	180
							Fo	rmer Uno	cal Bulk Pl	ant 306456								
GEI-2	09/17/06 09/12/07 <b>04/11/08</b>	120 96 <b>73.3</b>	140  	<1.0 <2 <1.00	<0.8 <2 <1.00	<1.0 <2 <b>&lt;1.00</b>	<0.5 <1 <b>&lt;1.00</b>	<1.0 <2 <1.00	<0.8 <2 <1.00	<500  	<0.56 <0.28 <0.200	42.2 95.6 <100	<9.4 <9.4 <150	445 1190 <b>381</b>	<0.91 8.2 <b>7.90</b>	17.8 168 <10.0	89.5 322 <b>&lt;50.0</b>	<1.6 6.6 <b>&lt;10.0</b>
GEI-7	09/12/07	3.1		2	<0.8	<1	<0.5	3	11		<0.056	90.6	<9.4	658	4.3	74.7	64.5	5.4
GEI-9	03/16/07	0.014	<0.5	<1	<0.8	<1	<0.5	<1	<0.8		<0.056	37.2	<9.4	341	<0.91	17.8	<6.9	1.6
GEI-11	09/17/06 04/12/08	1.9 <b>2.13</b>	2 	<1.0 	<0.8 	<1.0 	<0.5 	<1.0 	<0.8 	<250 	0.082	107 	<9.4 	1,110 	1.3 	30.9 	<u>63.9</u> 	<1.6 
GEI-12	04/12/08	<0.010		-	<1.00	<1.00	<1.00	<1.00	<1.00	-	<0.200	<100	<150	527	<5.00	45.1	<50.0	<10.0
MW-13	09/09/07	<0.0098																
Trip Blank	03/17/07 09/09/07	<0.0098 <0.0099	<0.5 	<1 <1	<0.8 <0.8	<1 <1	<0.5 <0.5	<1 <1	<0.8 <0.8									
Notes: All results a VOC = vola RCRA = Re GCL = ADE NL = A GCI Bold Type = Highlighted = sample <25 = result	re reported in tile organic co source Conse C 18 AAC 75 is not curren Results of m concentration was not analy t did not excee	micrograms ompounds; a rvation and Groundwate tly listed. ost recent sa s are greate zed for this ed indicated	per liter (µ nalyzed us Recovery / rr Cleanup ampling ev r than the a compound method re	g/l) ing EPA M Act; sample Level ent applicable . porting lim	lethod 826 es analyze ADEC GC it; an eleva	0B d using EP L.	A Methods	; 7470 (me	rcury only) ; iple was dili	and 6010B								

#### Table 4 Groundwater PAH Analytical Data

Former Chevron 1004130, 418 Illinois Street Former Texaco 211815, 401 Driveway Street Former Unocal 306456, 328.5 Illinois Ave. Fairbanks, Alaska

Well	Sample Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene	1-Methylnaphthalene	2-Methylnaphthalene
1	ADEC GCL:	700	2,200	2,200	1,460	11,000	11,000	1,460	1,100	1	100	1	10	0.2	1	0.1	1,100	1,500	780
TH-13	10/03/05	18	<0.02	6	8	16	4	8	7	1	1	0.4	0.1	< 0.02	< 0.02	< 0.02	<0.02		
	4/20/206							We	ell not samp	led - buried	under ice, r	nonument f	lled						
	09/14/06	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	03/15/07	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	04/10/08	<0.0971	0.466	0.505	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971	<0.0971
TH-17	10/03/05	15	<0.02	0.6	1	0.4	0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02		
	4/20/206							We	ell not samp	led - buried	under ice, r	nonument f	lled						
	09/14/06	19	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	09/13/07	26	<1	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	04/04/08								Well not s	ampled - m	onument u	Inderwater							
									Former Tex	aco 21181	5								
MW-2	03/16/07 09/10/07	130 140	<1 1	3 2	6 7	5 6	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1		
MW-3	10/03/05	140	<0.2	4	6	9	3	0.1	0.3	<0.2	<0.2	<0.2	<0.1	<0.2	<0.2	<0.2	<0.2		
	4/20/206	100	<1	<1	2	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	03/16/07	120	<1	<1	3 <1	3 <1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	09/10/07	72	<1	<1	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
	04/10/08	112	<0.0990	<0.0990	1.19	1.25	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	<0.0990	40.2
MW-4	10/03/05	390	<0.2	6	14	25	3	0.9	0.6	<0.2	<0.2	<0.2	<0.1	<0.2	<0.2	<0.2	<0.2		
	4/20/206	400	3	4	12	16	-1	-1	LNAPL p	oresent - 0.3	2' - well not	sampled	-1	-1	<1	~1	<1	I	I
	03/12/00	400	5	-	12	10			LNAPL	present - 0.4	6' - well not	sampled							-
MW-7	10/03/05	31	<0.02	0.3	<0.01	0.04	0.04	0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02		
MW-8	10/03/05	24	<0.02	0.2	0.1	0.1	0.03	0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02		
MW-9	10/03/05	0.2	<0.02	<0.01	<0.01	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02		
MW-10	10/03/05	2	<0.02	0.5	0.4	0.05	0.03	0.04	0.03	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02		
									Former Un	ocal 306456	5								
GEI-2	09/17/06	400	<10	<10	11	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
	09/12/07	560 375	<10	<10	28	19 -5 00	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	130	182
GEL7	00/12/07	620	20.00	<0.00	0	4	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	100	102
GEI-7	03/12/07	47	3 1	~1	9	4	~1	~1	~1	~1	<1	~1	<1	<1	<1	<1	<1		
GEI-9	00/17/06	47 590	<10	<10	20	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
GEL12	04/12/09	175	<0.042	<0.042	4.24	1 70	<0.042	<0.042	<0.042	<0.042	-0.042	<0.042	-0.042	<0.042	<0.042	-10	-10		
GEI-12	04/12/08	1/5	<0.943	<0.943	4.34	1.70	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	<0.943	100	213
All results PAH = Pol	are reported vcvclic Arom	in microgra	ams per liter arbons; and	(µg/l) alyzed using	EPA Metho	od 8270													

PAH = Polycyclic Aromatic Hydrocarbons; analyzed using EPA intended 6210 GCL = ADEC 18 AAC 75 Groundwater Cleanup Level Bold Type = Results of most recent sampling event -- = sample was not analyzed for this compound <25 = result did not exceed indicated method reporting limit; an elevated reporting limit indicates sample was diluted

Figures



BY: RICHARDS, PLOTTED: 8/13/2008 1:16 PM PLTFULL.CTB PLOTSTYLETABLE: PAGESETUP: PDF-AP 17.0S (LMS TECH) TM (Opt) LYR (Opt)ON \* OFF \*REF\* D 7/24/2008 11:00 AM ACADVER 1 i Ü t) PM M Strickler LAYOUT 1 SAVE PIC:(Opt) dwb DB.JAR LD (Opt) SA08GMR45512N01 DIV/GROUP:85 2008/B0045512/0001/0000 CITY:TMAPA,FL



Strickler

PIC PIC (Figure 1)



Strickler 3 SAVE ġ. (fd

LEGEND

Chevron Monitoring Well (TH)

○ Unocal Monitoring Well (GEI) (K)

	SAMPLE LOCATION
DATE	SAMPLE DATE
GRO	GASOLINE RANGE ORGANICS
DRO	DIESEL RANGE ORGANICS
В	BENZENE

RESULTS REPORTED IN MICROGRAMS PER LITER ( $\mu$ g/L) 220/210 = DUPLICATE SAMPLE TAKEN BOLD VALUE INDICATES CONCENTRATION GREATER THAN ADEC GROUNDWATER CLEANUP LEVELS 18 AAC 75.

NOTES:

- The coordinate system is a local grid. Elevations are State of Alaska TBM "X" NE bolt of fire hydrant on the south side of Phillips Field Road between Illinois Street and Driveway Street. Elevation is 446.59'.
- Property boundary and well locations provided by "KARABELNIKOFF SURVEYING", Date Nov. 12, 2007,



GRAPHIC SCALE

FORMER CHEVRON TERMINAL 1001430 - 418 ILLINOIS ST. FORMER TEXACO TERMINAL 211815 - 410 DRIVEWAY ST. FORMER UNOCAL BULK TERMINAL 306456 - 328.5 ILLINOIS ST. FAIRBANKS, ALASKA

> ANALYTICAL SUMMARY MAP APRIL 2008



## Appendix A

Groundwater Sampling Field Data Sheets

			GROUNDWA	TER SAMPLE	DATA SH	EET					
Project Number:	45506			Sample Location	n (ie. MW-1):	:	GEI-1				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yym	nmdd):					
Client:	Arcadis			Date Sample Co	ollected:		4/12/2008				
Sampler:	Hannah, We	ller		Time gauged:							
			Ν	lell Information							
Groupdwater:	Y		Casing	2		a) Well Depth (	ft)·				
Groundwater.	<u>X</u>			2		b) Water Depth	(ft):				
Other:			-			c) Water Colum	nn (ft):				
						d) Calc. Purge	Vol. (gal):				
Well Casing Diameter	Multiply c) by:		Calcul	ating Purge Vol	lume	Sand Pack Diameter	Multiply c) by:	_			
2 4	0.16					8 10	0.71	4			
6	1.47					12	1.28				
Example 1- purging only	well casing volume	9				Example 2- purging v	vell casing and sar	nd pack volume			
2-inch casing and 6-foot water column 2-inch casing, 8-inch sand pack, and 6-foot water column One Purge Volume= 0.16 X 6 = 0.96 gallons water											
			FIELD		NTS						
	Volume		Conductivity	Temperature		<b>T</b> 1 1 10			01		
lime	(galions)	рн	(115)	(C)	Color	lurbidity	Redox	Dissolved O <sub>2</sub>	Other		
Total Volume Pur	ged (Gallons):				Free Produ	ct (y/n):		_			
Odor: Purge Method (di	sposable baile	r, teflon bail	er, submersible	pump. etc.)	Sheen (y/n)	:					
		,		F F,							
Sample Method (	disposable bai	ler. teflon ba	iler. submersibl	e pump. etc.)							
			,	- FF,,							
Well Integrity (cor	ndition of casin	a. flush mou	Int sealing prop	erlv. cement sea	l intact. etc.)						
		<u>,</u>	51 1	,,	,,						
Remarks (well rec	coverv. unusua	al conditions	observations):								
not gauged or sar	mpled, ice in w	vell	,-								
					<u> </u>						
Duplicate Samp	ole ID:				Analyses I	Requested:					
opin oumpio iB	•										
Signed:	Hannah, W	eller			_	Date:	4/12/2008	3			
Signed/reviewe	r:					Date:					
			GROUNDWA	TER SAMPLE	DATA SH	EET					
--	------------------------------	----------------	-------------------	------------------	-----------------	---	---	--------------------------	--------	--	
Project Number:	45506			Sample Location	n (ie. MW-1)	:	GEI-2		_		
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/IW-1-W-yym	nmdd):	GEI-2-W-0804	11	'		
Client:	Arcadis			Date Sample Co	ollected:		4/11/2008		'		
Sampler:	Hannah. We	ller		Time gauged:			1800		1		
	, .	-	M	lell Information					•		
			Casing								
Groundwater:	Х		Diameter (in):	2		a) Well Depth	(ft):	20.02			
Othern						b) Water Dept	n (ft):	18.18			
Other:	DTP 18.16		-			c) Water Colur	nn (ft):	1.84			
						u) Calc. Fulge	voi. (gai).	0.5			
			Calcul	ating Purge Vol	lume						
Well Casing Diameter	Multiply c) by:		Calcul	ating Furge voi	lume	Sand Pack Diameter	Multiply c) by:	1			
2	0.16					8 10	0.71	1			
6 1.47 12 1.28 Note: assuming sand pack bas 29% porosity											
Example 1- purging only	well casing volume	1				Note: assuming sand Example 2- purging	I pack has 29% porc well casing and sa	osity nd pack volume			
2-inch casing and 6-foot water column One Purge Volume= 0.16 X 6 = 0.96 gallons water											
								•			
	Volume		FIELD	D MEASUREME	NTS		-	1			
Time	(gallons)	На	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1740	0.5	5.80	0.577	1.8	grey	turbid					
1745	0.75	6.02	0.590	2.2	grey						
1750	1.25	6.34	0.583	2.4							
1754	1.75	6.18	0.592	2.44							
Total Volume Pur	ged (Gallons):		1.75		Free Produ	ct (y/n):	n				
Odor:	very heavy				Sheen (y/n)	):	deminimus s	sheen			
Purge Method (dis teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method (o	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
well integrity (cor	idition of casin	ig, tiush mol	unt sealing prop	eriy, cement sea	i intact, etc.)						
Remarks (well rec PID 421 ppm, slov	covery, unusua w recharge	al conditions	/observations):								
Duplicate Samp	le ID:				Analyses I	Requested:	GRO/BTE	K/VOC's/EDB/C	RO/RRO		
Split Sample ID	:						PAH's/met	als			
Signed:	Hannah, W	eller			-	Date:	4/11/200	8			
Signed/reviewer	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45506			Sample Location	n (ie. MW-1)	:	GEI-3				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yyn	nmdd): (	GEI-3-W-0804	111			
Client:	Arcadis			Date Sample Co	ollected:		4/11/2008				
Sampler:	Hannah, We	ller		Time gauged:			1715				
	·		N	/ell Information							
			Casing	-							
Groundwater:	<u>X</u>		Diameter (in):	2		a) Well Depth	(ft):	20			
Other <sup>.</sup>						c) Water Colur	nn (ft) <sup>.</sup>	2.37			
			-			d) Calc. Purge	Vol. (gal):	0.4			
						, _	,				
Calculating Purge Volume											
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:				
2 4	0.16					8 10	0.71	1			
6	1.47					12 Note: assuming sand	1.28 pack has 29% porc	osity			
Example 1- purging only 2-inch casing and 6-foot w	well casing volume ater column	3				Example 2- purging 2-inch casing, 8-inch	well casing and sa sand pack, and 6-fo	nd pack volume ot water column			
One Purge Volume= 0.16	X 6 = 0.96 gallons wa	ater				One Purge Volume= (	0.16 X 6) + (0.71 X	6) = 5.22 gallons water			
			FIELD	MEASUREME	NTS						
	Volume		Conductivity	Temperature							
Time	(gallons)	pH	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1707	0.5	6.70	0.486	1.9	cloudy						
1710	1	6.37	0.481	2.2		+			<u> </u>		
1713	G.1	0.30	0.476	2.3							
			4 5		Erre Dre de			•			
Total Volume Pur	ged (Gallons):	lor	1.5		Free Produ	ict (y/n):	n dominimus (				
Purae Method (dis	sposable baile	r. teflon bail	er. submersible	pump. etc.)	Sheen (y/n	).	deminimus	sneen			
teflon bailer			,								
Sample Method (	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
teflon bailer		,	,	- FF,,							
Well Integrity (con	dition of casin	a flush moi	unt sealing prop	erly cement sea	lintact_etc.)	1					
weir megney (oor		ig, nuon mo		ony, comon coa	i intaot, oto.)						
Domorko (wall roc			(abaar (atiana))								
PID 385	overy, unusua	a conditions	observations).								
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BTEX	K/DRO/RRO			
Split Sample ID	:				]						
Signed:	Hannah, W	eller			_	Date:	4/11/200	8			
Signed/reviewer	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45506			Sample Location	n (ie. MW-1)	:	GEI-4				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yyn	nmdd): (	GEI-4-W-0804	111			
Client:	Arcadis			Date Sample Co	ollected:		4/11/2008				
Sampler:	Hannah, We	ller		Time gauged:			1900				
			N	/ell Information							
			Casing								
Groundwater:	<u>X</u>		Diameter (in):	2		a) Well Depth	(ft):	20.05			
Other:						c) Water Colur	1 (11). nn (ft):	2 15			
Other.			-			d) Calc. Purge	Vol. (gal):	0.3			
						,	(3**)				
			Calcul	ating Purge Vo	lume						
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:				
2 4	0.16 0.65					8 10	0.71	-			
6	1.47					12 Note: assuming sand	1.28 pack has 29% porc	ositv			
Example 1- purging only	well casing volume	9				Example 2- purging	well casing and sa	nd pack volume			
One Purge Volume= 0.16	X 6 = 0.96 gallons w	ater				One Purge Volume= (	(0.16 X 6) + (0.71 X	6) = 5.22 gallons water			
			FIELD	MEASUREME	NTS						
	Volume		Conductivity	Temperature		1					
Time	(gallons)	pН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1850	0.5	6.93	0.446	2.3	cloudy						
1853	1	7.05	0.269	2.2	cloudy						
1856	1.5	6.67	0.438	2.2	cloudy						
1858	2	6.67	0.437	2.32	cioudy						
Total Volume Pur	ged (Gallons):		2		Free Produ	ict (y/n):	<u>n</u>	_			
Odor: Purge Method (di	heavy sposable baile	r teflon bai	er submersible	pump etc.)	Sheen (y/n	):	n				
teflon bailer				panip, etc.)							
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	ig, flush mo	unt sealing prop	erly, cement sea	l intact, etc.)	1					
Remarks (well red PID 5.4 ppm, soc	covery, unusua k in well	al conditions	observations):								
Duplicate Samp	ole ID:	DUP-1-W-	080411 @ 080	00	Analyses	Requested:	GRO/BTEX	K/DRO/RRO			
Split Sample ID	:				]						
Signed:	Hannah, W	eller			-	Date:	4/11/200	8			
Signed/reviewe	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45506			Sample Location	n (ie. MW-1):	:	GEI-5				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yym	nmdd):					
Client:	Arcadis			Date Sample Co	ollected:		4/11/2008				
Sampler:	Hannah, We	ller		Time gauged:							
			N	/ell Information							
Croupdwatar	v		Casing			a) Wall Dopth (	f+\.				
Groundwater.	<u>^</u>					b) Water Depth	(ft):				
Other:			-			c) Water Colum	nn (ft):				
						d) Calc. Purge	Vol. (gal):				
Calculating Purge Volume											
Well Casing Diameter	Multiply c) by:		Calcul	ating Purge Vol	lume	Sand Pack Diameter	Multiply c) by:				
2 4	0.16					8 10	0.71	4			
6         1.47           Note:         assuming sand pack has 29% porosity											
Example 1- purging only well casing volume Example 2- purging well casing and sand pack to as 29% porosity											
2-inch casing and 6-foot water column       2-inch casing, 8-inch sand pack, and 6-foot water column         One Purge Volume= 0.16 X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
			FIELD	MEASUREME	NTS						
Time	Volume Conductivity Temperature (C) Column Tertitium Deduce Disaster (C)								Others		
Time	(galions)	рн	(113)	(C)	Color	I Urbidity	Redox	Dissolved U <sub>2</sub>	Other		
Total Volume Pure	ged (Gallons):				Free Produ	ct (y/n):		-			
Purge Method (dis	sposable baile	r, teflon bail	er, submersible	pump, etc.)	Sneen (y/n)						
Sample Method (d	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)							
Well Integrity (con	dition of casin	ıg, flush mou	int sealing prop	erly, cement sea	l intact, etc.)						
Remarks (well rec	covery, unusua	al conditions,	/observations):								
not sampled, unde	er ice										
Dunlicate Samp	In ID:				Analyses	Paguastad.					
Split Sample ID:	:				Analyses	requested.					
· · · · ·											
Signed:	Hannah, W	eller			-	Date:	4/11/2008	3			
Signed/reviewer	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45506			Sample Location	n (ie. MW-1):	:	GEI-6				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/IW-1-W-yym	nmdd):					
Client:	Arcadis			Date Sample Co	ollected:		4/11/2008				
Sampler:	Hannah, We	ller		Time gauged:							
			N	/ell Information							
Groupdwator:	Y		Casing			a) Wall Dopth (	ft).				
Groundwater.	<u>^</u>					b) Water Depth	(ft):				
Other:			-			c) Water Colum	nn (ft):				
						d) Calc. Purge	Vol. (gal):				
Colculating Purgo Volumo											
Well Casing Diameter	Multiply c) by:		Calcul	ating Purge Vol	ume	Sand Pack Diameter	Multiply c) by:				
2 4	0.16					8 10	0.71	4			
6         1.47           Note:         assuming sand pack has 29% porosity											
Example 1- purging only well casing volume     Example 2- purging well casing and sand pack volume       Zinch casing and 6-foot water column     2inch casing Rinch sand pack volume											
2-inch casing and 6-foot water column       2-inch casing, 8-inch sand pack, and 6-foot water column         One Purge Volume= 0.16 X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
			FIELD	MEASUREME	NTS						
<b></b>	Volume Conductivity Temperature (C) Column Turkidity Deduce Disaster O								01		
lime	(galions)	рн	(113)	(C)	Color	I urbidity	Redox	Dissolved O <sub>2</sub>	Other		
Total Volume Pur	ged (Gallons):				Free Produ	ct (y/n):		_			
Odor: Purge Method (dis	sposable baile	r. teflon bail	er. submersible	pump. etc.)	Sheen (y/n)	:					
		.,		F F,							
Sample Method (	disposable bai	ler. teflon ba	iler. submersibl	e pump. etc.)							
		- ,	,	-   -  , ,							
Well Integrity (cor	ndition of casin	ig, flush mou	Int sealing prop	erly, cement sea	l intact, etc.)						
0,7(		0,	01 1		. ,						
Remarks (well rec	covery, unusua	al conditions,	/observations):								
not sampled, und	er water		,								
Dualizata Cama					Anchiere	Deguested					
Split Sample ID	:				Analyses i	Requested:					
Signed:	Hannah, W	eller			-	Date:	4/11/2008	3			
Signed/reviewer	r:					Date:					

			GROUNDWA	TER SAMPLE	DATA SH	EET						
Project Number:	45506			Sample Location	n (ie. MW-1)	:	GEI-7					
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yyn	nmdd):						
Client:	Arcadis			Date Sample Co	ollected:		4/12/2008					
Sampler:	Hannah, We	ller		Time gauged:			N/A					
			W	ell Information								
Croundwater	v		Casing	0"		a) Mall Dapth (	f+).					
Groundwater.	<u>^</u>		Diameter (in).	2		b) Water Depth	(ft):					
Other:			_			c) Water Colum	nn (ft):					
			_			d) Calc. Purge	Vol. (gal):					
	Colouisting Durge Velume											
			Calcul	ating Purge Vol	lume							
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by: 0.71	4				
4 6	0.65					10 12	1 1.28	4				
Example 1- purging only	well casing volume	1				Note: assuming sand Example 2- purging v	pack has 29% poro vell casing and sa	sity nd pack volume				
Zvinch casing volume     Zvinch casing volume       Zvinch casing and 6-foot water column     Zvinch casing, 8-inch sand pack, and 6-foot water column       One Purge Volume= 0.16 X 6 = 0.96 gallons water     One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water												
			FIFI (		NTS							
	Volume		Conductivity	Temperature								
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other			
	+											
Total Volume Pure Odor:	ged (Gallons):				Free Produ Sheen (y/n)	ct (y/n): ):		_				
Purge Method (dis	sposable baile	r, teflon bail	er, submersible	pump, etc.)								
Sample Method (d	disposable bai	ler, teflon ba	iller, submersibl	e pump, etc.)								
Well Integrity (con	ndition of casin	g, flush mou	int sealing prope	erly, cement sea	l intact, etc.)							
Remarks (well rec PID 4.5 ppm, not :	covery, unusua sampled or ga	al conditions uged, ice at	/observations): 4.4'									
Duplicate Samp	le ID:				Analyses	Requested:						
Split Sample ID:	:											
Signed:	Hannah, W	eller			<u> </u>	Date:	4/11/2008	3				
Signed/reviewer	r:					Date:						

Project Number:       45506       Sample Location (ie. MW-1):	GROUNDWATER SAMPLE DATA SHEET											
Project Name:         328.5 Illinois Ave         Sample ID (ie. MW-1-W-yymmdd):           Client:         Arcadis         Date Sample Collected:         4/11/2008           Sample:         Hannah, Weller         Time gaugad:         4/11/2008           Groundwater:         X         Diameter (in):         2''         a) Well Depth (ft):	Project Number:	45506			Sample Location	n (ie. MW-1):	:	GEI-8		_		
Client:       Arcadis       Date Sample Collected:       4/11/2008         Sampler:       Hannah, Weller       Time gauged:         Well Information       Add Information         Groundwater:       X       Diameter (in): 2"       a) Well Depth (1):	Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	/W-1-W-yym	ımdd):			_		
Sampler: Hannah, Weller         Time gauged:           Well Information           Groundwater:         X         Diameter (in): 2'         a) Well Depth (ft):	Client:	Arcadis			Date Sample Co	ollected:		4/11/2008				
Well Information           Groundwater:         X         Diameter (in):         2*         a) Well Depth (ft):           Other:	Sampler:	Hannah, We	ller		Time gauged:					<u>.</u>		
Casing Groundwater:         X         Diameter (in):         2"         a) Well Depth (tt):           Other:             b) Water Depth (tt):            Other:                 Other:                  Wit Casers Diameer         Multiply of by: <td></td> <td></td> <td></td> <td>N</td> <td>/ell Information</td> <td></td> <td></td> <td></td> <td></td> <td></td>				N	/ell Information							
Control web/line         Definition (if);         Definition (if);           Other:	Groupdwater:	x		Casing	<b>0</b> "		a) Well Depth (	ft).				
Other:         c) Water Column (ft):	Groundwater.	<u></u>			2		b) Water Depth	(ft):				
d) Calc. Purge Vol. (gal):         Calculating Purge Volume         Vid Casting futuretor       Multiply c) br:         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.07         0       0.06 Represented Multiply c) by:         0       0.06 Represented Multiply c) by:         0       0.06 Represented Multiply c) by:         0       0.07 Represented Multiply c) by:         0       0.06 Represented Multiply c) by:         0       0.0	Other:			_			c) Water Colum	nn (ft):				
Calculating Purge Volume         Stand Pixet Dummeter Multiply of by:         2       0.16         2       0.16         2       0.16         2       0.16         3       0.17         3       0.17         3       0.17         3       0.17         4       0.17         4       0.17         4       0.17         4       0.17         4       0.17         4       0.17							d) Calc. Purge	Vol. (gal):				
Calculating Purge Volume           Well Casery Dimensity         Stand Pack Diameter         Well (Wellpy c) by: 8 - 1 - 27            a colspan="2">Calculating Purge Volume           b colspan="2">Calculating Purge Volume           c colspan="2">Colspan="2">Calculating Purge Volume           c colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan= 2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan	Calculating Purge Volume											
Image: State in the state	Well Casing Diameter	Multiply o) by:		Calcul	ating Purge Vol	ume	Sand Back Diamotor	Multiply c) by:				
is       12s       12s         Example 1- purging only well casing volume 2nch casing affor how were column Che Purge Volume. 0.16 X 6 = 0.36 gallons water       Note::::::::::::::::::::::::::::::::::::	2	0.16					8	0.71	4			
Basepie 1- purging only well casing outlone       Note::::::::::::::::::::::::::::::::::::	4 6	0.65					12	1.28	1			
Bunch casing and 6-low water column       2-inch casing, 8-ndt sam gould, and 6-low water column down Purge Volume: (16 × 6) + 0.27 × 6) = 5.22 galaxies water         Implicit a sing, 8-ndt sam gould be added water column down Purge Volume: (16 × 6) + 0.27 × 6) = 5.22 galaxies water         Implicit a sing, 8-ndt sam gould be added water column down Purge Volume: (16 × 6) + 0.27 × 6) = 5.22 galaxies water         Implicit a sing, 8-ndt sam gould be added water column down water         Time (gallons)       Conductivity Temperature (C)         Implicit a sing, 8-ndt sam gould be added water column down and the down water         Time (gallons)       Conductivity Temperature (C)       Color       Turbidity Redox Dissolved O <sub>2</sub> Other         Total Volume Purged (Gallons):       Free Product (y/n):       Conductivity Sheen (y/n):         Odor:       Sheen (y/n):         Water water         Manalyses Requested: <td <="" colspan="2" td=""><td colspan="9">Note:         assuming sand pack has 29% porosity           Example 1- purging only well casing volume         Example 2- purging well casing and sand pack volume</td><td></td></td>	<td colspan="9">Note:         assuming sand pack has 29% porosity           Example 1- purging only well casing volume         Example 2- purging well casing and sand pack volume</td> <td></td>		Note:         assuming sand pack has 29% porosity           Example 1- purging only well casing volume         Example 2- purging well casing and sand pack volume									
FIELD MEASUREMENTS         Time       Volume (gallons)       PH       Conductivity (mS)       Temperature (C)       Color       Turbidity       Redox       Dissolved O2       Other         Image: I	2-inch casing of white casing volume     2-inch casing volume       2-inch casing and 6-ioc water column     2-inch casing volume       One Purge Volume= 0.16 X 6 = 0.96 gallons water     One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
Volume       Conductivity       Temperature       Color       Turbidity       Redox       Dissolved O2       Other         Image: Image and the second seco				FIFI (		NTS						
Time       (gallons)       pH       (mS)       (C)       Color       Turbidity       Redox       Dissolved O2       Other         Image:	Volume         Conductivity         Temperature											
Image: Signed:       Hannah, Weller       Analyses       Requested:       4/11/2008         Signed:       Hannah, Weller       Date:       4/11/2008	Time	(gallons)	pН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
Image: Signed:       Image: Signed/reviewer:												
Image: Constraint of the second se												
Total Volume Purged (Gallons):												
Total Volume Purged (Gallons):												
Odor:       Sheen (y/n):         Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)         Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:         Split Sample ID:         Signed:       Hannah, Weller         Date:       4/11/2008         Signed/reviewer:       Date:	Total Volume Pur	ged (Gallons):				Free Produ	ct (y/n):					
Purge Method (disposable bailer, teflon bailer, submersible pump, etc.) Sample Method (disposable bailer, teflon bailer, submersible pump, etc.) Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.) Remarks (well recovery, unusual conditions/observations): Not sampled or gauged, sock frozen in well Duplicate Sample ID: Split Sample ID: Hannah, Weller Date:	Odor:	<b>,</b>				Sheen (y/n)	:		_			
Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Date:       Date:	Purge Method (di	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method (disposable bailer, teflon bailer, submersible pump, etc.) Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.) Remarks (well recovery, unusual conditions/observations): Not sampled or gauged, sock frozen in well Duplicate Sample ID: Duplicate Sample ID: Signed: Hannah, Weller Date: 4/11/2008 Signed/reviewer: Date:												
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:         Split Sample ID:         Signed:       Hannah, Weller         Signed:       Hannah, Weller         Date:       4/11/2008	Sample Method (	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Date:       Date:												
Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Signed/reviewer:       Date:	Well Integrity (cor	ndition of casir	ng, flush moι	unt sealing prop	erly, cement sea	l intact, etc.)						
Remarks (well recovery, unusual conditions/observations):         Not sampled or gauged, sock frozen in well         Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Signed/reviewer:       Date:												
Not sampled or gauged, sock trozen in well         Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Signed/reviewer:       Date:	Remarks (well rec	covery, unusua	al conditions	/observations):								
Duplicate Sample ID:       Analyses Requested:         Split Sample ID:       Date:         Signed:       Hannah, Weller         Date:       Date:	Not sampled or ga	auged, sock fr	ozen in well									
Split Sample ID:	Duplicate Samp	ole ID:				Analyses I	Requested:					
Signed: <u>Hannah, Weller</u> Date: <u>4/11/2008</u> Signed/reviewer: Date:	Split Sample ID	:					·					
Signed:     Hannah, Weller     Date:     4/11/2008       Signed/reviewer:     Date:												
Signed/reviewer: Date:	Signed:	Hannah, W	'eller			-	Date:	4/11/2008	3			
	Signed/reviewe	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45506			Sample Locatio	n (ie. MW-1	):	GEI-9				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyr	mmdd):	G <u>EI-9-W-080</u> 4	111			
Client:	Arcadis			Date Sample C	ollected:		4/11/2008				
Sampler:	Hannah, We	ller		Time gauged:			1935				
			W	lell Information							
			Casing								
Groundwater:	X		Diameter (in):	2		_a) Well Depth	(ft):	19.1			
Other:						<ul> <li>b) water Dept</li> <li>c) Water Colu</li> </ul>	Π (π): mn (ft):	17.62			
			-			d) Calc. Purge	e Vol. (gal):	0.3			
						, 3					
			Calcul	ating Purge Vo	lume						
Calculating Purge Volume         Vell Casing Diameter       Multiply c) by:         2       0.16         4       0.65         6       1.47         Note: assuming sand pack has 29% porosity         Example 1- purging only well casing volume         2:inch casing and 6-foot water column       Date: assuming sand pack, and 6-foot water column         Dne Purge Volume= 0.16 X 6 = 0.96 gallons water       2:inch casing, 8:inch sand pack, and 6-foot water column											
			FIELD	MEASUREME	NTS						
Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1925	0.5	6.45	0.20	1.9	cloudy						
1930	1	6.23	0.34	2.0		-					
1935	1.5	6.17	0.33	1.9							
Total Volume Pur	ged (Gallons):		1.5		Free Produ	ıct (y/n):	No				
Odor:	slight				Sheen (y/n	):	No				
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prope	erly, cement sea	al intact, etc.	)					
Remarks (well red PID 2.0 ppm	covery, unusua	al conditions	/observations):								
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BTE	K/DRO/RRO			
Split Sample ID	:				4						
					1						

			GROUNDWA	TER SAMPLE	DATA SH	EET					
Project Number:	45506			Sample Location	on (ie. MW-1	):	GEI-10				
Project Name:	328.5 Illinois	Ave		Sample ID (ie.	MW-1-W-yyı	mmdd): C	G <u>EI-10-W-080</u>	412			
Client:	Arcadis			Date Sample C	ollected:		4/12/2008				
Sampler:	Hannah, We	ller		Time gauged:			940				
			W	ell Information	I						
Creating distants	V		Casing	0			(4).	10.5			
Groundwater:	<u>X</u>		Diameter (in):	2		a) Well Depth	(II): h (ft):	19.5			
Other:						c) Water Colu	mn (ft):	2.99			
			-			d) Calc. Purge	e Vol. (gal):	0.5			
						,					
			Calcul	ating Purge Vo	lume						
Well Casing Diameter 2 4 6	Multiply c) by: 0.16 0.65 1.47					Sand Pack Diameter 8 10 12	Multiply c) by: 0.71 1 1.28				
Example 1- purging only well casing volume       Example 2- purging well casing and sand pack volume         2-inch casing and 6-foot water column       2-inch casing, 8-inch sand pack, and 6-foot water column         One Purge Volume= 0.16 X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
			FIELD	MEASUREME	NTS	-					
Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
930	0.5	6.55	0.20	2.3	cloudy						
940	1	6.43	0.20	2.7	cloudy						
942	1.5	6.40	0.19	2.8	cloudy						
Total Volume Pur	raed (Gallons):		15		Eree Produ	rct (v/n)	No	•			
Odor:	heavy odor		1.0		Sheen (v/n	):	No	_			
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)		,					
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prop	erly, cement sea	al intact, etc.	)					
Remarks (well red PID 0.0 ppm	covery, unusua	al conditions	/observations):								
Duplicate Sample ID: Analyses Requested: GRO/BTEX/DRO/RRO											
Split Sample ID	:										
					1						

			GROUNDWA	TER SAMPLE	DATA SH	EET					
Project Number:	45506			Sample Locatio	n (ie. MW-1	):	GEI-11				
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	/W-1-W-yyı	mmdd): G	EI-11-W-080	412			
Client:	Arcadis			Date Sample C	ollected:		4/12/2008				
Sampler:	Hannah, We	ller		Time gauged:			1415				
			W	ell Information							
			Casing								
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	19.65			
Other:	DTP 17 11'					<ul> <li>b) Water Deptr</li> <li>c) Water Colur</li> </ul>	1 (π): nn (ft):	2.07			
other.			-			d) Calc. Purge	Vol. (aal):	0.3			
						.,	(9)				
			Calcula	ating Purge Vo	lume						
Sand Pack Diameter         Multiply c) by:           2         0.16           4         0.65           6         1.47           Note: assuming sand pack has 29% porosity											
Example 1- purging only 2-inch casing and 6-foot wa One Purge Volume= 0.16 3	well casing volume ater column X 6 = 0.96 gallons wat	ter				Example 2- purging v 2-inch casing, 8-inch s One Purge Volume= (i	well casing and sar sand pack, and 6-foo 0.16 X 6) + (0.71 X 6	t water column 5) = 5.22 gallons water			
			FIELD	MEASUREME	NTS	-	-	-			
Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1410	3.5	6.59	0.43	3.0	cloudy						
1417	4.5	6.44	0.41	2.8							
1420	5	6.38	0.41	2.7				-			
								-			
					I	1					
Total Volume Pur	ged (Gallons):		5		Free Produ	ict (y/n):	у	_			
Odor: Purge Method (dis teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)	Sneen (y/n	):					
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersible	e pump, etc.)							
Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prope	erly, cement sea	l intact, etc.	)					
Remarks (well red PID 108 ppm, col	covery, unusua lected ~0.5 ga	al conditions I NAPL after	/observations): · purging 3 gal, c	lid EDB on GEI-	11 instead o	of MW-13 due to	MW-13 being	ı frozen			
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BET>	(/DRO/RRO/ED	B		
Split Sample ID:											

			GROUNDWA	TER SAMPLE		IEET				
Project Number:	45506			Sample Locatio	on (ie. MW-1	1):	GEI-12			
Project Name:	328.5 Illinois	Ave		Sample ID (ie.	MW-1-W-yy	/mmdd):	G <u>EI-12-W-080</u>	412		
Client:	Arcadis			Date Sample C	ollected:		4/12/2008			
Sampler:	Hannah, Wel	ler		Time gauged:			1150			
			N	ell Information	1					
			Casing							
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	19.58		
Othor						<ul> <li>b) Water Dep</li> <li>c) Water Calu</li> </ul>	n (π): mn (#):	16.98		
Other.	DIF 10.05		-			d) Calc. Purg	Nol (aal).	0.4		
		0.4								
			Calcul	ating Purge Vo	lume					
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:			
2 4	0.16 0.65					8 10	0.71	-		
6	1.47					12 Note: assuming sam	1.28 1 pack has 29% poro	sity		
Example 1- purging only	well casing volume					Example 2- purging	well casing and sar	1d pack volume		
2-inch casing and 6-foot w One Purge Volume= 0.16	ater column X 6 = 0.96 gallons wate	er				2-inch casing, 8-inch One Purge Volume=	sand pack, and 6-foc (0.16 X 6) + (0.71 X 6	t water column δ) = 5.22 gallons water		
					INTS					
	Volume		Conductivity	Temperature						
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other	
1140	1.5	6.68	0.22	2.3	grey					
1144	2	6.12	0.37	2.5	grey					
1146	2.5	6.13	0.35	2.6	grey					
								_		
<b>T</b> ( 1) ( 1) <b>D</b>										
Total Volume Pur	ged (Gallons):		2.5		Free Prod	uct (y/n):	у			
Odor: Purge Method (di	heavy	teflon hail	ar submarsible	pump etc.)	Sheen (y/r	ר):				
teflon bailer		, tenon ban		pump, ctc.)						
Sample Method (	disposable bail	er, teflon ba	ailer, submersibl	e pump, etc.)						
teflon bailer				,						
Well Integrity (cor	ndition of casing	a flush moi	unt sealing prop	erly coment se	al intact etc	• )				
wen megny (oor		g, nuon mo		ony, comon oc		•)				
Remarks (well red	covery, unusua	l conditions	/observations):							
PID 3.7 ppm, tool	k "full suite" ana	alyses on G	EI-12 because	GEI-7, GEI-1 ca	n't be samp	led, GEI-9 samp	led on 4/11			
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BET)	<pre></pre>	B	
Split Sample ID	: -				]		VOC's/PAH's/Arsenic/Lead/metals			
-	-				7					

GROUNDWATER SAMPLE DATA SHEET										
Project Number:	45506			Sample Locatio	n (ie. MW-1):	:	MW-2			
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	/W-1-W-yym	imdd): I	<u>1W-2-W-0804</u>	12		
Client:	Arcadis			Date Sample C	ollected:		4/12/2008			
Sampler:	Hannah, We	ller		Time gauged:			1535			
			W	ell Information						
			Casing							
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	21.93		
Other:						<ul> <li>b) water Dept</li> <li>c) Water Colu</li> </ul>	n (π): mn (ft):	4 33		
Ouler.			-			d) Calc. Purge	Vol. (gal):	0.7		
						.,	(3**)			
			Calcul	ating Purge Vo	lume					
Sand Pack Diameter       Multiply c) by:         2       0.16         4       0.65         6       1.47         Example 1- purging only well casing volume       Note: assuming sand pack has 29% porosity         2-inch casing and 6-foot water column       Dne Purge Volume= (0.16 X 6 = 0.96 gallons water										
			FIELD	MEASUREME	NTS					
Time	Volume (gallons)	nН	Conductivity (mS)	Temperature	Color	Turbidity	Redox		Other	
1525	(gallorid)	7.33	0.31	4.3	rustv/cloudv	Turbiaity	Redux		Other	
1528	2.25	7.20	0.32	4.4						
1530	3	7.10	0.32	4.5						
Total Volume Pur	ged (Gallons):		3		Free Produc	ct (y/n):	No	_		
Odor:	slight				Sheen (y/n):		No			
Purge Method (dis teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)						
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)						
Well Integrity (cor	ndition of casin	g, flush mou	int sealing prop	erly, cement sea	l intact, etc.)					
Remarks (well rec PID 0.0	covery, unusua	al conditions,	observations):							
Duplicate Sample ID:         Analyses Requested:         GRO/BTEX/DRO/RRO										
Split Sample ID:	-									

			GROUNDWA	TER SAMPLE	DATA SH	EET			
Project Number:	45506			Sample Locatio	on (ie. MW-1	):	MW-4		
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyr	mmdd): I	<u>4W-4-W-0804</u>	112	
Client:	Arcadis			Date Sample C	ollected:		4/11/2008		
Sampler:	Hannah, We	ller		Time gauged:			1550		
			W	ell Information	I				
Omerican de la com	Y		Casing	0			(1).	04.45	
Groundwater:	X		Diameter (in):	2		a) Well Deptn	(π): h (ft):	24.15	
Other:						c) Water Colu	mn (ft):	3.33	
			-			d) Calc. Purge	Vol. (gal):	0.5	
						, ,			
			Calcul	ating Purge Vo	lume				
Well Casing Diameter 2 4 6 Example 1- purging only 2-inch casing and 6-foot w	Multiply c) by: 0.16 0.65 1.47 well casing volume ater column	tor				Sand Pack Diameter 8 10 12 Note: assuming sand Example 2- purging 2-inch casing, 8-inch One Durov Volumeo	Multiply c) by: 0.71 1 1.28 pack has 29% poros well casing and sar sand pack, and 6-foo 0.42 X 6) + 0.71 X 6	sity <b>d pack volume</b> t water column b = 5.27 enlane weter	
One Purge Volume= 0.16	X 6 = 0.96 gallons wa	ter				One Purge Volume=	0.16 X 6) + (0.71 X 6	6) = 5.22 gallons water	
			FIELD	MEASUREME	NTS				
Time	(gallons)	рН	(mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
1540	1	8.55	0.64	3.4	tan	. a.z.a.ty			C alloi
1545	1.5	8.32	0.12	3.4					
1548	2	8.25	0.12	3.4					
Total Volume Pur	ged (Gallons):		2		Free Produ	ıct (y/n):	No	_	
Odor:					Sheen (y/n	):	No		
teflon bailer	sposable balle	r, tetion dall	er, submersible	pump, etc.)					
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)					
Well Integrity (cor	ndition of casin	ıg, flush mou	unt sealing prop	erly, cement sea	al intact, etc.	)			
Remarks (well red PID 0.0 ppm	covery, unusua	al conditions.	/observations):						
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BTE>	(/DRO/RRO	
Split Sample ID	:				4				
					1				

Project Number:       45506       Sample Location (ie. MW-1):       MW-5         Project Name:       2325. Billinois Ave       Sample ID (ie. MW-1.W-yymmdd):       MW-5-W-080412         Client:       Arcadis				GROUNDWA	TER SAMPLE	DATA SH	EET			
Project Name:       328.5 Illinois Ave       Sample ID (je. MW-1-W-yymmdd);       MW-5-W-080412         Clent:       Arcadis       Date Sample Collected:       4/12/2008         Sampler:       Hannah, Weller       Time gauged:       1500         Well Information         Casing         Groundwater:       X       Diameter (in):       2.1.6         Other:             Citating Purge Volume       0) Water Column (ft):       4.16          Casing             Cher:              Cleared Diameter       Muter to ty:             Cleared Diameter       Muter to ty:             Cleared Diameter       Muter to ty:              Cleared Diameter       Muter to ty:                Cleared Diameter       Muter to ty:	Project Number:	45506			Sample Locatio	on (ie. MW-1	):	MW-5		
Client:         Acadis         Date Sample Collected:         4/12/2008           Sampler:         Hannah, Weller         Time gauged:         1500           Well Information         Casing         a) Well Depth (ft):         21.6           Other:          Diameter (in):         2         a) Well Depth (ft):         17.44           Other:           O'Water Depth (ft):         17.44            Other:                 Classing                 Water Column (ft):                 Classing                  Classing to material particle in the first in the	Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyı	mmdd):	M <u>W-5-W-080</u> 4	112	
Sampler:         Hannah, Weller         Time gauged:         1500           Well Information           Groundwater:         X         Diameter (in):	Client:	Arcadis			Date Sample C	ollected:		4/12/2008		
Well Information           Groundwater:         X         Casing Diameter (n):         a) Well Depth (ft):         21.6           Other:	Sampler:	Hannah, We	ller		Time gauged:			1500		
Casing Diameter (in): 2         a) Well Depth (ft):         21.6           Other:         b) Water Depth (ft):         17.44           Other:         c) Water Column (ft):         4.16           d) Calc. Purge Vol. (gal):         0.7           Calculating Purge Volume           Well Casing Diameter         Mutply c) by:           Calculating Purge Volume           Well Casing Diameter         Mutply c) by:           Calculating Purge Volume           Well Casing Diameter         Mutply c) by:           Calculating Purge Volume           Well Casing Diameter (in): 2         Bind Pack Diameter Mutply c) by:           Zend Diameter Calculation State         Bind Pack Diameter Nume         Diameter Nume           Calculating Purge Volume           Zend Diameter Calculation State         Diameter Nume         Diameter Nume           Diameter Calculation State         Diameter Nume           Calculating Purge Volume           Volume: Diameter Nume           Calculating Purge Wether Calculation State           Diameter Calculation State           Volume: Calculation State           Calculation State           Calculation State <td></td> <td></td> <td></td> <td>W</td> <td>ell Information</td> <td>1</td> <td></td> <td></td> <td></td> <td></td>				W	ell Information	1				
Groundwater:         X         Diameter (in):         2         a) Well Depth (ft):         21.6           b) Water Depth (ft):         17.44 <t< td=""><td></td><td></td><td></td><td>Casing</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				Casing						
Other:         0) Water Column (ft):         17.44           0) Water Column (ft):         4.16           0) Calc. Purge Vol. (gal):         0.7             Calculating Purge Volume           Weit Cating Nume         Stand Pack Lander         Multiply (s) (s):           2         0.18         0.7           2         0.18         0.7           2         0.18         0.7           2         0.18         0.7           3         0.7         10.7           2         0.18         0.7           3         0.7         10.7           2         0.18         0.7           3         0.7         10.7           2         0.18         0.7         10.7           0         0.7         10.7         10.7           10         0.7         10.7         10.7           10         0.7         10.7         10.7           10         0.7         10.7         10.7         10.7           10         0.7         10.7         10.7         10.7         10.7           10         0.7         10.7         10.7         10.7         10.7	Groundwater:	X		Diameter (in):	2		_a) Well Depth	(ft):	21.6	
Of Match Durge Vol. (gal):         0.7           Calculating Purge Vol. (gal):         0.7           Sand Pack Dameter Muliply (1):         0.7           Sand Pack Dameter Muliply (1):         0.7           Sand Pack Dameter Muliply (1):         0.7           Calculating Purge Volume         Sand Pack Dameter Muliply (1):         0.7           Calculating Purge Volume         Sand Pack Dameter Muliply (1):         0.7           Calculating Purge Volume         Sand Pack Dameter Muliply (1):         0.7           Calculating Purge Volume         Sand Pack Dameter Muliply (1):         Note assumption of the SSN protocy           Earupe 2 Parging with calculating and pack Notant         Colspan= 2 Pack Sand Sand Sand Sand Sand Sand Sand Sand	Other:						c) Water Dept	n (π): mn (ft):	4 16	
Calculating Purge Volume           Sand Pack Dameter         Multiply c) by:				-			d) Calc. Purge	e Vol. (gal):	0.7	
Calculating Purge Volume         Weit Casing Diameter       Multiply (: by: 10       Samt Pack Diameter       Multiply (: by: 10       Samt Pack Diameter       Multiply (: by: 12       Samt Pack Diameter       Multiply (: by: 10       Samt Pack Diameter       Multiply (: by: 12       Multiply (: by: 12       Samt Pack Diameter       Multiply (: by: 12       Mult							, 0	(0)		
Weit Casing Diameter         Multiply (1) yr.         Sand Pack Diameter         Multiply (2) yr.         0				Calcul	ating Purge Vo	lume				
FIELD MEASUREMENTS         Time       Volume (gallons)       pH       Conductivity (mS)       Temperature (C)       Color       Turbidity       Redox       Dissolved O2       Other         1455       2       7.04       0.33       2.4       cloudy	Vell Casing Diameter 2 4 6 Example 1- purging only 2-inch casing and 6-foot w One Purge Volume= 0.16	Multiply c) by:           0.16           0.65           1.47           well casing volume ater column           X 6 = 0.96 gallons wat	ler				Sand Pack Diameter 8 10 12 Note: assuming sand Example 2- purging 2-inch casing, 8-inch One Purge Volume=	Multiply c) by: 0.71 1 1.28 d pack has 29% poros well casing and sar sand pack, and 6-foo (0.16 X 6) + (0.71 X 6)	sity <b>id pack volume</b> t water column 5) = 5.22 gallons water	
Volume (gallons)       pH       Conductivity (mS)       Temperature (C)       Color       Turbidity       Redox       Dissolved O2       Other         1455       2       7.04       0.33       2.4       cloudy       Image: Conductivity       Redox       Dissolved O2       Other         1457       2.75       6.83       0.33       2.5       cloudy       Image: Conductivity       Image: Conductivity       Image: Conductivity       Redox       Dissolved O2       Other         1457       2.75       6.83       0.33       2.5       cloudy       Image: Conductivity       Ima				FIELD	MEASUREME	NTS				
1455         2         7.04         0.33         2.4         cloudy         Image: Constraint of the state of	Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
1457       2.75       6.83       0.33       2.5       cloudy	1455	2	7.04	0.33	2.4	cloudy				
1500       3.5       6.75       0.33       2.5	1457	2.75	6.83	0.33	2.5	cloudy				
Total Volume Purged (Gallons):       3.5       Free Product (y/n):       No         Odor:       heavy       Sheen (y/n):       y         Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       y         Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       y         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)       group (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):       PID 0.0 ppm, emulsified product in bailer         Duplicate Sample ID:       Analyses Requested:       GRO/BTEX/DRO/RRO         Split Sample ID:       Analyses Requested:       GRO/BTEX/DRO/RRO	1500	3.5	6.75	0.33	2.5					
Total Volume Purged (Gallons):       3.5       Free Product (y/n):       No         Odor:       heavy       Sheen (y/n):       y         Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)         Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       Vell Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)       Remarks (well recovery, unusual conditions/observations):         PID 0.0 ppm, emulsified product in bailer       Analyses Requested:       GRO/BTEX/DRO/RRO         Split Sample ID:										
Iterative Purged (Gallons):       3.5       Free Product (y/n):       No         Odor:       heavy       Sheen (y/n):       y         Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       y         Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer       y         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)       y         Remarks (well recovery, unusual conditions/observations):       PID 0.0 ppm, emulsified product in bailer         Duplicate Sample ID:				۱ <u>.</u>						
Outer       Intervy       Sincer (yn).       y         Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer         Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)       teflon bailer         Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)       well integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):       PID 0.0 ppm, emulsified product in bailer         Duplicate Sample ID:	Total Volume Pur	ged (Gallons):		3.5	,	Free Produ	ict (y/n):		_	
Sample Method (disposable bailer, teflon bailer, submersible pump, etc.) teflon bailer Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.) Remarks (well recovery, unusual conditions/observations): PID 0.0 ppm, emulsified product in bailer Duplicate Sample ID: Split Sample ID:	Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)	Sheen (y/n	).	y		
Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)         Remarks (well recovery, unusual conditions/observations):         PID 0.0 ppm, emulsified product in bailer         Duplicate Sample ID:         Split Sample ID:	Sample Method ( teflon bailer	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)					
Remarks (well recovery, unusual conditions/observations):         PID 0.0 ppm, emulsified product in bailer         Duplicate Sample ID:	Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prope	erly, cement sea	al intact, etc.	)			
Duplicate Sample ID:       Analyses Requested:       GRO/BTEX/DRO/RRO         Split Sample ID:	Remarks (well red PID 0.0 ppm, emu	covery, unusua ulsified product	al conditions t in bailer	/observations):		_				
Split Sample ID:	Duplicate Samp	le ID:				Analyses	Requested:	GRO/BTE>	(/DRO/RRO	
•	Split Sample ID					4				

			GROUNDWA	TER SAMPLE	DATA SH	EET				
Project Number:	45506			Sample Locatio	n (ie. MW-1)	):	MW-6			
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyr	nmdd): I	<u>40-6-W-0804</u>	11		
Client:	Arcadis			Date Sample C	ollected:		4/11/2008			
Sampler:	Hannah, We	ller		Time gauged:			1640			
			W	ell Information						
			Casing				(4.)			
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft): h (ft):	25.25		
Other:						c) Water Colu	mn (ft):	4.77		
•			•			d) Calc. Purge	Vol. (gal):	0.8		
			Calcul	ating Purge Vo	lume					
Calculating Purge Volume         Well Casing Diameter       Multiply c) by:         2       0.16         4       0.65         6       1.47         Note: assuming sand pack has 29% porosity         Example 1- purging only well casing volume         2-inch casing and 6-foot water column       One Purge Volume= 0.16 X 6 = 0.96 gallons water										
			FIELD	MEASUREME	NTS					
	Volume		Conductivity	Temperature		1	1			
1 ime	(galions)	pH	(mS)	(C)	Color	lurbidity	Redox	Dissolved O <sub>2</sub>	Other	
1630	2	6.70	0.53	3.0	clear					
1637	3	6.55	0.52	2.9	clear					
Total Volume Pur	ged (Gallons):		3		Free Produ	ct (y/n):	No			
Odor:	heavy during	gauging, no	one during purg	ing	Sheen (y/n)	):	No			
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)						
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)						
Well Integrity (cor	ndition of casin	ıg, flush mou	int sealing prop	erly, cement sea	al intact, etc.)	)				
Remarks (well red PID 0.0 ppm	covery, unusua	al conditions,	observations):		_					
Duplicate Sample ID: Analyses Requested: GRO/BTEX/DRO/RRO										
Split Sample ID	:				4					
					1					

			GROUNDWA	TER SAMPLE	DATA SH	EET			
Project Number:	45506			Sample Locatio	n (ie. MW-1	):	K-5		
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyr	mmdd):	K-5-W-08041	2	
Client:	Arcadis			Date Sample C	ollected:		4/12/2008		
Sampler:	Hannah, We	ller		Time gauged:			1030		
			W	ell Information					
			Casing						
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	19.08	
Other <sup>.</sup>						c) Water Dept	n (π): mn (ft):	2.08	
Culor.			-			d) Calc. Purge	Vol. (gal):	0.3	
						, .	,		
			Calcul	ating Purge Vo	lume				
Well Casing Diameter 2 4 6 Example 1- purging only 2-inch casing and 6-foot w One Purge Volume= 0.16	Multiply c) by:           0.16           0.65           1.47           well casing volume rater column           X 6 = 0.96 gallons war	ler				Sand Pack Diameter 8 10 12 Note: assuming sand Example 2- purging 2-inch casing, 8-inch : One Purge Volume= (	Multiply c) by: 0.71 1.28 pack has 29% poros well casing and sams sand pack, and 6-foo 0.16 X 6) + (0.71 X 6)	ity d pack volume t water column ) = 5.22 gallons water	
			FIELD	MEASUREME	NTS				
Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
1022	0.5	6.47	0.45	2.5	clear				
1028	1	6.48	0.45	2.7	clear				
1030	1.5	6.55	0.44	2.6	clear				
Total Volume Pur	ged (Gallons):		1.5		Free Produ	ict (y/n):	No	_	
Purge Method (di teflon bailer	sposable baile	r, teflon baile	er, submersible	pump, etc.)	<u>Oncen (y/n</u>		y		
Sample Method ( teflon bailer	disposable bail	ier, teflon ba	iler, submersible	e pump, etc.)					
Well Integrity (cor	ndition of casin	g, flush mou	int sealing prope	erly, cement sea	al intact, etc.	)			
Well Integrity (cor Remarks (well red PID 4.4 ppm	ndition of casin	g, flush mou Il conditions/	int sealing prope	erly, cement sea	al intact, etc.	)			
Well Integrity (con Remarks (well red PID 4.4 ppm Duplicate Samp	ndition of casin covery, unusua	g, flush mou 1 conditions/	int sealing prope /observations):	erly, cement sea	al intact, etc.	) Requested:	GRO/BTE>	(/DRO/RRO	

			GROUNDWA	TER SAMPLE	DATA SH	EET			
Project Number:	45506			Sample Locatio	n (ie. MW-1	):	K-7		
Project Name:	328.5 Illinois	Ave		Sample ID (ie. N	MW-1-W-yyr	mmdd):			
Client:	Arcadis			Date Sample C	ollected:		4/12/2008		
Sampler:	Hannah, Wel	ler		Time gauged:					
			W	ell Information					
Groundwater: Other:	<u>×</u>		Casing Diameter (in):	2		a) Well Depth ( b) Water Depth c) Water Colun	ft): ı (ft): nn (ft):		
						d) Calc. Purge	Vol. (gal):		
			Calcul	ating Burgo Vol	lumo				
Well Casing Diameter 2 4 6 Example 1- purging only 2-inch casing and 6-foot w. One Purge Volume= 0.16 2	Multiply c) by:           0.16           0.65           1.47           well casing volume ater column X 6 = 0.96 gallons wate	er	Galear			Sand Pack Diameter 8 10 12 Note: assuming sand   Example 2- purging w 2-inch casing, 8-inch s: One Purge Volume= (0)	Multiply c) by: 0.71 1 1.28 pack has 29% poros <b>vell casing and sar</b> and pack, and 6-foo 0.16 X 6) + (0.71 X 6)	sity <b>d pack volume</b> t water column s) = 5.22 gallons water	
			FIELD	MEASUREME	NTS				
Time	Volume (gallons)	рН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
	+ +								
Total Volume Pur	ged (Gallons):				Free Produ	ıct (y/n):			
Odor: Purge Method (di	snosahle hailei	r teflon haile	er submersible	nump etc.)	Sheen (y/n	):			
r argo morrioa (ar				pamp, otol					
Sample Method (	disposable bail	er, teflon ba	iler, submersibl	e pump, etc.)					
Well Integrity (cor	ndition of casing	g, flush mou	nt sealing prop	erly, cement sea	l intact, etc.	)			
Remarks (well red PID 0.2 ppm, not	covery, unusua sampled - ice t	l conditions/ plockage in (	observations): casing						
Duplicate Samp	le ID:				Analyses	Requested:			
Split Sample ID:	-				-				

			GROUNDWA	TER SAMPLE	DATA SH	EET			
Project Number:	45506			Sample Locatio	n (ie. MW-1	):	MW-13		
Project Name:	328.5 Illinois	Ave		Sample ID (ie. I	MW-1-W-yyı	mmdd):			
Client:	Arcadis			Date Sample C	ollected:		4/12/2008		
Sampler:	Hannah, Wel	ler		Time gauged:					
			W	ell Information					
Groundwater:	х		Casing Diameter (in):	2		a) Well Depth (	ft):		
						b) Water Depth	, (ft):		
Other:						c) Water Colum	nn (ft):		
						d) Calc. Purge	Vol. (gal):		
			Calcul	ating Purge Vo	lumo				
Well Casing Diameter	Multiply c) by:			anig ruige vo		Sand Pack Diameter	Multiply c) by:		
2 4	0.16 0.65					8 10	0.71		
6	1.47					12 Note: assuming sand	1.28 pack has 29% poros	sity	
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column					2-inch casing, 8-inch si Opp Burge Volume (6	vell casing and san and pack, and 6-foo	t water column	
	× 0 = 0.90 galloris wate	31				One Fulge Volume= (C	.10 × 0) + (0.71 × 0	j = 5.22 galions water	
	Volume		FIELD Conductivity	MEASUREME	NTS		1		
Time	(gallons)	pН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
	+ +								
Total Volume Pur	ged (Gallons):				Free Produ	ıct (y/n):			
Odor:					Sheen (y/n	):			
Purge Method (dis	sposable bailer	, teflon baile	er, submersible	pump, etc.)					
Sample Method (	disposable bail	er, teflon ba	iler, submersibl	e pump, etc.)					
						-			
Well Integrity (cor	ndition of casing	g, flush mou	int sealing prope	erly, cement sea	I intact, etc.	)			
Remarks (well rec PID 0.0 ppm, not	covery, unusua sampled - ice i	l conditions/ n casing	observations):						
pp,		i cacing							
Duplicate Samp	le ID:				Analyses	Requested:			
Split Sample ID:	-				-				

			GROUNDWA	TER SAMPLE	DATA SHE	ET					
Project Number:	45505.001			Sample Location	(ie. MW-1):		AR-81		_		
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	W-1-W-yymr	ndd): A	R-81-W-0804	110	_		
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008				
Sampler:	Hannah, We	ller		Time sampled:			1555				
			N	lell Information							
One of the state	X		Casing				(61)	40.70			
Groundwater:	X		Diameter (in):	4		a) well Depth (	(π): ο (ft):	18.70			
Other:						c) Water Colur	nn (ft):	3.02			
			-			d) Calc. Purge	Vol. (gal):	2.0			
			Calcul	ating Purge Vol	ume						
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by:	4			
4	0.65					10	1	4			
	1.47					Note: assuming sand	pack has 29% poros	ity			
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column					Example 2- purging v 2-inch casing, 8-inch s	well casing and san and pack, and 6-foo	d pack volume t water column			
2-inch casing and 6-foot water column       2-inch casing, 8-inch sand pack, and 6-foot water column         One Purge Volume= 0.16 X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
			FIELD	MEASUREMEN	NTS	-		-			
Volume     Conductivity     Temperature       Time     (gallons)     pH     (mS)     (C)     Color     Turbidity     Redox     Dissolved O <sub>2</sub> Other											
1530	(galions)	ρΠ 6.61	0.406	(C)	COIOI	Turbidity	Redux	Dissolved O <sub>2</sub>	Other		
1540	4	6.59	0.400	2.1	grey						
1550	6	6.54	0.415	2.2	light grey						
Total Volume Pur	ged (Gallons):		6		Free Produc	ct (y/n):	n				
Odor:	slight when g	gauging			Sheen (y/n)	:	n	_			
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method (	disposable bai	ler, teflon ba	ailer, submersible	e pump, etc.)							
teflon bailer											
Well Integrity (cor	ndition of casin	ıg, flush moı	unt sealing prope	erly, cement seal	intact, etc.)						
Remarks (well red PID 0.0 ppm, slov	covery, unusua v to recharge	al conditions	/observations):								
Duplicate Samp	le ID:				Analyses F	Requested:	GRO/BTEX	(/DRO/RRO			
Split Sample ID:					4						
Signed:	Hannah, W	eller				Date:	4/10/2008	3	-		
Signed/reviewer	r:					Date:					

			GROUNDWA	TER SAMPLE	DATA SHE	ET					
Project Number:	45505.001			Sample Location	(ie. MW-1):		AR-85		_		
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	W-1-W-yym	mdd): A	R-85-W-0804	410	_		
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008				
Sampler:	Hannah, We	ller		Time sampled:			1450				
			v	Vell Information							
			Casing				(5)	47.70			
Groundwater:	X		Diameter (in):	4		a) Well Depth	(ft): > (ft):	17.70			
Other:						c) Water Colur	nn (ft):	1.91			
			-			d) Calc. Purge	Vol. (gal):	1.2			
			Calcu	lating Purge Vol	ume						
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by: 0.71	-			
4	0.65					10	1	4			
	1.47					Note: assuming sand	pack has 29% poros	sity			
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column					Example 2- purging v 2-inch casing, 8-inch s	well casing and san and pack, and 6-foo	d pack volume t water column			
One Purge Volume= 0.16 2	X 6 = 0.96 gallons wa	ter				One Purge Volume= (	0.16 X 6) + (0.71 X 6	i) = 5.22 gallons water			
			FIELI	DMEASUREMEN	NTS		1	-			
Volume         Conductivity         Temperature         Image: Conductivity         Temperature         Temperature         <											
1435	(galions)	ρΠ 6.62	0.583	(0)	COIOI	Turbiaity	Redux	Dissolved O <sub>2</sub>	Other		
1433	2.5	6.60	0.377	2.0							
1448	4	6.56	0.378	2.1							
Total Volume Pur	ged (Gallons):		4		Free Produ	ct (y/n):	n				
Odor:	no odor				Sheen (y/n)	:	n	_			
Purge Method (dis teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	a flush mou	Int sealing prop	arly coment seal	intact etc.)						
Weir megnty (cor		ig, nusir mot		eny, coment sear							
Remarks (well rec PID 0.0 ppm	covery, unusua	al conditions	/observations):								
Duplicate Samp	le ID:	DUP-1-W-	080410 @ 080	00	Analyses F	Requested:	GRO/BTEX	(/DRO/RRO			
Split Sample ID:	:				4						
<b>—</b> ——											
Signed:	Hannah, W	eller			-	Date:	4/10/2008	3	-		
Signed/reviewer	:					Date:					

			GROUNDWA	TER SAMPLE	DATA SHE	ET					
Project Number:	45505.001			Sample Location	(ie. MW-1):		MW-1		-		
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	W-1-W-yymr	ndd):			-		
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008		_		
Sampler:	Hannah, We	ller		Time sampled:							
			٧	Vell Information							
Groundwater:	x		Casing			a) Well Depth (	ft)·				
Groundwater.	<u></u>					b) Water Depth	(ft):				
Other:			_			c) Water Colum	nn (ft):				
						d) Calc. Purge	Vol. (gal):				
	_	_			_		_				
Well Casing Diameter	Multiply c) by:		Calcu	lating Purge Vol	ume	Sand Pack Diameter	Multiply c) by:				
2	0.16					8 10	0.71				
6	1.47		1.28	1							
Example 1- purging only	well casing volume					Example 2- purging w	back has 29% porosi vell casing and sand	ty d pack volume			
Example 1- purging only well casing volume     Example 2- purging well casing and a sand pack volume       2-inch casing and 6-foot water column     2-inch casing, 8-inch sand pack, and 6-foot water column       One Purge Volume= 0.16 X 6 = 0.96 gallons water     One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water											
			FIEL	D MEASUREMEN	NTS						
Volume Conductivity Temperature (reliance)											
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
Total Volume Pur Odor:	ged (Gallons):				Free Produc Sheen (y/n)	ct (y/n): :		_			
Purge Method (di	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method (	disposable bai	ler, teflon ba	iller, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	ıg, flush mou	Int sealing prop	erly, cement seal	intact, etc.)						
Remarks (well red not sampled - und	covery, unusua derwater	al conditions.	/observations):								
Duplicate Samp	le ID:				Analyses F	Requested:					
Split Sample ID:											
Signed:	Hannah, W	eller			-	Date:	4/10/2008	5			
Signed/reviewer	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45505.001			Sample Locatio	n (ie. MW-1)	:	MW-2				
Project Name:	401 Drivewa	y Street		Sample ID (ie. N	/W-1-W-yyn	nmdd):					
Client:	ARCADIS			Date Sample C	ollected:		4/10/2008				
Sampler:	Hannah, We	ller		Time sampled:							
			W	ell Information							
Groundwater:	x		Casing			a) Well Denth (	ft)·				
Croundwater.	<u></u>					b) Water Depth	i (ft):				
Other:			-			c) Water Colum	nn (ft):				
						d) Calc. Purge	Vol. (gal):				
Well Casing Diameter	Multiply c) by:		Calcul	ating Purge Vo	lume	Sand Pack Diameter	Multiply c) by:				
2 4	0.16					8 10	0.71	-			
6     1.47       Note: assuming sand pack has 29% porosity											
Example 1- purging only well casing volume     Example 2- purging well casing and pack volume       2-inch casing and 6-foot water column     2-inch casing, 8-inch sand pack, and 6-foot water column											
One Purge Volume= 0.16 >	2-inch casing and 6-foot water column       2-inch casing, 8-inch sand pack, and 6-foot water column         One Purge Volume= 0.16 X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water										
			FIELD	MEASUREME	NTS						
Volume         Conductivity         Temperature           Time         (gallons)         pH         (mS)         (C)         Color         Turbidity         Redox         Dissolved Qa         Or											
	(gallerie)	pri	(	(0)	00101	Turbiany	Redex	Dissolved 02	Other		
	+										
					L		l		·		
Total Volume Purg Odor:	ged (Gallons):				Free Produc	ct (y/n): 		-			
Purge Method (dis	sposable baile	r, teflon bail	er, submersible	pump, etc.)	Chech (j/h)						
Sample Method (	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)							
Well Integrity (con	ndition of casin	ıg, flush mou	int sealing prop	erly, cement sea	l intact, etc.)						
Remarks (well rec	covery, unusua	al conditions	observations):								
PID 307 ppm, car	n't sample soch	k frozen in w	ell								
Duplicate Samp	le ID:				Analyses F	Requested:					
Split Sample ID:	:					I.					
Signed:	Hannah, W	eller			-	Date:	4/10/2008	8	1		
Signed/reviewer	r:					Date:					

			GROUNDWA	TER SAMPLE	DATA SH	EET					
Project Number:	45505.001			Sample Locatio	n (ie. MW-1)	):	MW-3				
Project Name:	401 Drivewa	y Street		Sample ID (ie. N	MW-1-W-yyr	nmdd):	M <u>W-3-W-0804</u>	410			
Client:	ARCADIS			Date Sample C	ollected:		4/10/2008				
Sampler:	Hannah, We	ller		Time sampled:			1650				
			N	lell Information							
	V		Casing	2			(6)	10 70			
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft): ·b (ft):	19.70			
Other:						c) Water Colu	mn (ft):	3.64			
- · -			-			d) Calc. Purge	e Vol. (gal):	0.6			
			Calcul	ating Purge Vo	lume						
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by: 0.71	_			
4	0.65					10	1 1 28	4			
Evenue 4 murrier entre						Note: assuming san	d pack has 29% poro	sity			
2-inch casing and 6-foot w	ater column	tor				2-inch casing, 8-inch	sand pack, and 6-for $(0.16 \times 6) + (0.71 \times 1)$	bt water column			
	X 0 = 0.90 galloris wa	ter				One i uige volume-	(0.10 × 0) + (0.71 × 0	5) – 5.22 galons water			
	) / a la una a		FIELD	MEASUREME	NTS						
Time	(gallons)	Ha	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1640	1	6.40	0.480	2.7	light tan	low					
1643	2	6.37	0.458	2.4	clear						
1648	3	6.35	0.451	2.7	clear						
					-						
Total Volume Pur	ged (Gallons):		3		Free Produ	ict (y/n):	n				
Odor: Purge Method (di	moderate od	lor r teflon hail	er submersible	nump etc.)	Sheen (y/n	):	n				
teflon bailer				pump, oto.j							
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casin	ıg, flush moı	unt sealing prop	erly, cement sea	I intact, etc.)						
Remarks (well red PID 4.2 ppm	covery, unusua	al conditions	/observations):								
Duplicate Samp	ole ID:				Analyses	Requested:	GRO/BTEX	K/DRO/RRO			
Split Sample ID	:				4		VOC's/EDI	B/PAH's/metals			
Signed:	Hannah W	eller			I	Date:	4/10/200	8			
Signed/reviewe	r:				Date:						

			GROUNDWA	TER SAMPLE	DATA SH	IEET			
Project Number:	45505.001			Sample Locatio	n (ie. MW-1	):	MW-4		
Project Name:	401 Drivewa	/ Street		Sample ID (ie. N	MW-1-W-yyı	mmdd):			
Client:	ARCADIS			Date Sample Co	ollected:		4/10/2008		
Sampler:	Hannah, Wel	ler		Time sampled:					
			N	lell Information					
			Casing						
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	20.80	
Other:	DTP 15 80'					<ul> <li>b) Water Depti</li> <li>c) Water Colur</li> </ul>	η (π): nn (ft):	15.81	
Other.	DTT 13.00		_			d) Calc. Purge	Vol. (gal):	0.8	
						.,	(3**)		
			Calcul	ating Purge Vo	lume				
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:	1	
2 4	0.16 0.65					8 10	0.71	1	
6	1.47					12 Note: assuming sand	1.28 pack has 29% porc	osity	
Example 1- purging only 2-inch casing and 6-foot v	y well casing volume water column					Example 2- purging 2-inch casing, 8-inch	well casing and sa sand pack, and 6-fo	nd pack volume ot water column	
One Purge Volume= 0.16	X 6 = 0.96 gallons wa	ter				One Purge Volume= (	0.16 X 6) + (0.71 X	6) = 5.22 gallons water	
			FIELD	MEASUREME	NTS				
	Volume		Conductivity	Temperature		<b>—</b> 1.1.11			0.1
Time	(galions)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
Total Volume Pur	rged (Gallons):				Free Produ	uct (y/n):	y		
Odor:	heavy odor				Sheen (y/r	n):	2	_	
Purge Method (di	isposable baile	, teflon bai	ler, submersible	pump, etc.)					
Sample Method (	disposable bail	er, teflon b	ailer, submersibl	e pump, etc.)					
Well Integrity (cor	ndition of casin	g, flush mo	unt sealing prop	erly, cement sea	al intact, etc.	)			
Remarks (well ree	covery, unusua	l conditions	s/observations):						
PID 222 ppm, not	t sampled, ice i	n casing	·····,						
					-				
Duplicate Samp	ole ID:				Analyses	Requested:			
Split Sample ID	·. <u>-</u>				4				
Signed:	Hannah, W	eller			1	Date:	4/10/200	8	
Signed/reviewe	er:				-	Date:			

			GROUNDWA	TER SAMPLE	DATA SH	EET				
Project Number:	45505.001			Sample Locatio	n (ie. MW-1)	:	MW-5			
Project Name:	401 Drivewa	y Street		Sample ID (ie. N	/W-1-W-yyn	nmdd):				
Client:	ARCADIS			Date Sample Co	ollected:		4/10/2008			
Sampler:	Hannah, We	ller		Time sampled:						
			V	lell Information						
Groundwater:	x		Casing			a) Well Depth (	′f+)•			
Gloundwater.	<u>^</u>					b) Water Depth	n (ft):			
Other:	Other: c) Water Column (ft):									
d) Calc. Purge Vol. (gal):										
	_	_			_		_			
Well Cooling Diameter	Multiply o) by:	[	Calcul	lating Purge Vol	lume	Sand Pack Diamator	Multiply o) by:			
2	0.16					8	0.71	1		
6	1.47					10	1.28			
Example 1- purging only	well casing volume					Example 2- purging v	pack has 29% poros vell casing and san	d pack volume		
2-inch casing and 6-foot w One Purge Volume= 0.16	/ater column X 6 = 0.96 gallons wa	ter				2-inch casing, 8-inch s One Purge Volume= (0	and pack, and 6-foot ).16 X 6) + (0.71 X 6	) = 5.22 gallons water		
			FIEL		NTS					
	Volume		Conductivity	Temperature						
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other	
Total Volume Pur	rged (Gallons):			_	Free Produ	ct (y/n):				
Odor:				-	Sheen (y/n)	):				
Purge Method (di	isposable baile	er, teflon bail	er, submersible	pump, etc.)						
Sample Method (	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)						
Well Integrity (cor	ndition of casir	ng, flush mou	unt sealing prop	erly, cement sea	l intact, etc.)					
Remarks (well re-	covery, unusua	al conditions	/observations):							
not guaged of sal	mpied, underw	alei								
Duplicate Samp	ole ID:				Analyses I	Requested:				
Split Sample ID	:									
Signed:	Hannah, W	eller			-	Date:	4/10/2008	}		
Signed/reviewe	r:					Date:				

			GROUNDWA	TER SAMPLE	DATA SHE	ET			
Project Number:	45505.001			Sample Location	(ie. MW-1):		MW-7		_
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	W-1-W-yym	mdd): N	<u>/W-7-W-0804</u>	10	_
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008		_
Sampler:	Hannah, We	ller		Time sampled:			1945		
			v	Vell Information					
			Casing						
Groundwater:	<u>X</u>		Diameter (in):	2		a) Well Depth	(ft):	22.20	
Other <sup>.</sup>						c) Water Column (ft): 5.12			
			-			d) Calc. Purge	Vol. (gal):	0.8	
			Calcu	lating Purge Vol	ume				
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:		
4	0.65					10	1	4	
6	1.47					Note: assuming sand	pack has 29% poros	ity	
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column					Example 2- purging v 2-inch casing, 8-inch s	well casing and san and pack, and 6-foo	d pack volume t water column	
One Purge Volume= 0.16 2	X 6 = 0.96 gallons wa	ter				One Purge Volume= (	0.16 X 6) + (0.71 X 6	) = 5.22 gallons water	
			FIEL		NTS				
	Volume		Conductivity	Temperature					
Time	(gallons)	pH	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
1935	1	6.58	0.437	3.8	grey				
1938	2	6.51	0.444	3.9	grey				
1940	3	0.01	0.444	4.1					
								1	
Tatal ) (aluma Dur	and (Callera):		<u> </u>						
Total Volume Pur	ged (Gallons):	e aueaina le	<u>3</u> light odor while	puraina	Sheen (v/n)	ct (y/n):	<u>n</u>	_	
Purge Method (di	sposable baile	r, teflon bail	er, submersible	punging pump, etc.)	Sheen (y/n)	•	11		
teflon bailer									
Sample Method (	disnosahla hai	ler teflon ha	ailer submersible	e nump etc.)					
teflon bailer				e pump, etc.)					
			. P						
Well Integrity (cor	ndition of casin	ig, flush mou	int sealing prope	erly, cement seal	intact, etc.)				
Remarks (well red	covery, unusua	al conditions	/observations):						
PID 0.0 ppm									
Duplicate Samp	le ID:				Analyses F	Requested:	GRO/BTEX		
Split Sample ID:					, mary ses r				
· ·									
Signed <sup>.</sup>	Hannah W	eller				Date:	4/10/2008	3	
eigned.		0.101			-	2010.	1,10,2000		•
Signed/reviewer	r:				Date:				

			GROUNDWA	TER SAMPLE	DATA SHE	ET				
Project Number:	45505.001			Sample Location	n (ie. MW-1):		MW-8			
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	IW-1-W-yymi	mdd): N	<u>/W-8-W-0804</u>	410		
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008			
Sampler:	Hannah, We	ller		Time sampled:			2005			
			V	Vell Information						
	N.		Casing	•			(6)	04.05		
Groundwater:	X		Diameter (in):	2		a) Well Depth	(π): ο (ft):	21.65		
Other:					c) Water Column (ft): 6.23					
			-		d) Calc. Purge Vol. (gal): 1.0					
			Calcu	lating Purge Vol	ume	-	-			
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by: 0.71	_		
4	0.65					10	1	_		
	1.47					Note: assuming sand	I pack has 29% por	osity		
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column	B				Example 2- purging 2-inch casing, 8-inch	well casing and sa sand pack, and 6-fo	ind pack volume ot water column		
One Purge Volume= 0.16	X 6 = 0.96 gallons w	ater				One Purge Volume=	(0.16 X 6) + (0.71 X	6) = 5.22 gallons water		
			FIEL	D MEASUREME	NTS					
	Volume Conductivity Temperature									
l ime	(galions)	рН	(mS)	(C)	Color	I urbidity	Redox	Dissolved O <sub>2</sub>	Other	
1957	1	6.41	0.410	2.2	grey	turbia				
2000	2	6.42	0.403	2.2	light grey					
2002	5	0.42	0.412	2.5	light grey					
Total Volume Pur	ned (Gallons):		3		Eree Produ	rt(v/n)	n			
Odor:	moderate		5		Sheen (v/n)	:	<u>n</u>	_		
Purge Method (dis	sposable baile	er, teflon bail	er, submersible	pump, etc.)		-				
teflon bailer										
Sample Method (o	disposable bai	iler, teflon ba	ailer, submersibl	e pump, etc.)						
teflon bailer										
Well Integrity (con	dition of casin	na, flush mou	int sealing prope	erly, cement seal	intact. etc.)					
(con		.g,								
Pomorka (well rea		al conditions	(abaan (atiana))							
PID 0.0 ppm, slow	to recharge		/observations).							
	5									
Duplicate Samp	le ID:				Analyses I	Requested:	GRO/BTEX	X/DRO/RRO		
Split Sample ID:					4					
L										
Signed:	Hannah, W	/eller			_	Date:	4/10/200	8		
Signed/reviewer	·					Date:				

			GROUNDWA	TER SAMPLE	DATA SHE	ET				
Project Number:	45505.001			Sample Location	(ie. MW-1):		MW-9		_	
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	W-1-W-yymi	mdd): N	/W-9-W-0804	10	_	
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008		_	
Sampler:	Hannah, We	ller		Time sampled:			2025		_	
			v	lell Information						
Croupdwator	v		Casing	0		a) Wall Dapth	(f+).	21 70		
Groundwater.	<u>^</u>			2		b) Water Depth	(II). n (ft):	15.28		
Other:						c) Water Column (ft): 6.42				
			-			d) Calc. Purge	Vol. (gal):	1.0		
			Calcul	ating Purge Vol	ume	Г	Т			
Well Casing Diameter 2	Multiply c) by: 0.16					Sand Pack Diameter 8	Multiply c) by: 0.71	4		
4 6	0.65 1.47					10 12	1 1.28			
Example 1 purging only	well easing volume					Note: assuming sand	pack has 29% poros	d pack volume		
2-inch casing and 6-foot wa	ater column	tor				2-inch casing, 8-inch s	and pack, and 6-foot $(0.71 \times 6) + (0.71 \times 6)$	t water column 1 = 5.22 callons water		
	( 0 = 0.30 galoris wa						5.10 × 0) + (0.71 × 0	) = 3.22 gaions water		
			FIELD		NTS	T	г		1	
Time	(gallons)	рH	Conductivity (mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other	
2015	1	6.47	0.330	2.9	clear	. a. o.a.ty		2.000.000.002	e uner	
2017	2	6.46	0.332	2.9	clear					
2020	3	6.42	0.332	2.9	clear					
Total Volume Pur	ged (Gallons):		3		Free Produ	ct (y/n):	n			
Odor:	no odor				Sheen (y/n)	:	n			
Purge Method (dis teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)						
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersible	e pump, etc.)						
Well Integrity (cor	ndition of casin	ıg, flush moi	unt sealing prope	erly, cement seal	intact, etc.)					
Remarks (well rec PID 0.0 ppm	covery, unusua	al conditions	observations):							
					I	<u> </u>	000/075			
Duplicate Samp	le ID:				Analyses I	Requested:	GRO/BIEX	/DRO/RRO		
opin Gample ID.					-					
Signed:	Hannah, W	eller			-	Date:	4/10/2008	3	-	
Signed/reviewer	·:					Date:				

			GROUNDWA	TER SAMPLE	DATA SHE	ET			
Project Number:	45505.001			Sample Location	n (ie. MW-1):		MW-10		_
Project Name:	401 Drivewa	y Street		Sample ID (ie. M	IW-1-W-yymi	mdd): N	1 <u>W-10-W-080</u>	410	_
Client:	ARCADIS			Date Sample Co	llected:		4/10/2008		-
Sampler:	Hannah, We	ller		Time sampled:			2045		
			V	Vell Information					
Croundweter	v		Casing	0		a) Wall Danth	({{}}).	10.90	
Groundwater.	<u>^</u>			2		b) Water Deptil	(11). h (ft):	19.80	
Other:						c) Water Colur	nn (ft):	3.8	
			-			d) Calc. Purge	Vol. (gal):	0.6	
	г		Calcu	lating Purge Vol	ume	T			
Well Casing Diameter 2	Multiply c) by: 0.16					Sand Pack Diameter 8	Multiply c) by: 0.71		
4 6	0.65 1.47					10 12	1 1.28	7	
Example 1 purging only	well easing volume	l				Note: assuming sand	pack has 29% poros	sity	
2-inch casing and 6-foot w	ater column	tor				2-inch casing, 8-inch s	sand pack, and 6-foo	bt water column	
	x 0 = 0.90 galions wa	ter				One i uige volume- (	0.10 × 0) + (0.71 × 0	5) – 5.22 galoris water	
	) ( a la una a		FIEL		NTS	Т			T
Time	(gallons)	рH	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
2037	0.75	6.45	0.403	2.9	light grev	raibiaity	Rodox		Outor
2040	1.5	6.47	0.402	2.9	g.it g. c)				
2042	2.25	6.46	0.403	3.0					
Total Volume Pur	ged (Gallons):		2.25		Free Produ	ct (y/n):	n		
Odor:	slight odor w	hile gauging	, mod. While pu	irging	Sheen (y/n)	:	n		
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)					
Sample Method ( teflon bailer	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)					
Well Integrity (cor	ndition of casin	ıg, flush mou	unt sealing prope	erly, cement seal	intact, etc.)				
Remarks (well red PID 0.0 ppm	covery, unusua	al conditions	/observations):						
Duplicate Samp	le ID:				Analyses F	Requested:	GRO/BTE>	K/DRO/RRO	
Split Sample ID	:				_				
Signed:	Hannah, W	eller			-	Date:	4/10/2008	8	-
Signed/reviewer	r:					Date:			

			GROUNDWA	TER SAMPLE	DATA SHE	ET					
Project Number:	45512			Sample Location	(ie. MW-1):		MW-23		_		
Project Name:	418 Illinois S	street		Sample ID (ie. M	W-1-W-yym	mdd): N	1 <u>W-23-W-080</u>	408	_		
Client:	ARCADIS			Date Sample Co	llected:		4/8/2008		-		
Sampler:	Hannah, We	ller		Time sampled:			1545		-		
·			v	lell Information							
			Casing								
Groundwater:	<u>X</u>		Diameter (in):	2		a) Well Depth	(ft):	20.4			
Other <sup>.</sup>						c) Water Column (ft): 5.37					
					-	d) Calc. Purge	Vol. (gal):	0.9			
			Calcul	ating Purge Vol	ume						
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:				
4	0.64					10	1				
	1.47					Note: assuming sand	pack has 29% poros	sity			
Example 1- purging only 2-inch casing and 6-foot w	well casing volume ater column					Example 2- purging v 2-inch casing, 8-inch s	well casing and sar sand pack, and 6-foo	nd pack volume at water column			
One Purge Volume= 0.16	X 6 = 0.96 gallons wat	ter				One Purge Volume= (	0.16 X 6) + (0.71 X 6	6) = 5.22 gallons water			
			FIELD	MEASUREMEN	NTS						
Timo	Volume (gallons)	~ <b>L</b>	Conductivity	Temperature	Color	Turbidity	Podov	Dissolved O	Othor		
1535	(galions)	6.61	0.401	34	clear	very low	Redux				
1538	2	6.57	0.415	3.4	clear	very low			no odor		
1541	3	6.62	0.413	3.4	clear	very low			no odor		
Total Volume Pur	ged (Gallons):		3		Free Produ	ct (y/n):	n				
Odor:	slight while g	auging			Sheen (y/n)	):	n				
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
Sample Method (	disposable bai	ler, teflon ba	ailer, submersible	e pump, etc.)							
teflon bailer											
Well Integrity (cor	ndition of casin	g, flush mo	unt sealing prope	erly, cement seal	intact, etc.)						
Remarks (well red	covery, unusua	al conditions	/observations):								
PID 2.5 ppm			,								
					<u>.</u>		000/077	(1222)			
Duplicate Samp	le ID:				Analyses I	Requested:	GRO/BTE	(/DRO/RRO			
Opin Gample ID					1						
Signed:	Hannah, W	eller			_	Date:	4/8/2008	8			
Signed/reviewer	r:					Date:					
	• •					24.0.					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45512			Sample Locatio	on (ie. MW-1	):	MW-25				
Project Name:	418 Illinois S	treet		Sample ID (ie.	MW-1-W-yyı	mmdd): N	I <u>W-25-W-080</u>	408			
Client:	ARCADIS			Date Sample C	ollected:		4/10/2008				
Sampler:	Hannah			Time sampled:			1000				
			W	ell Information							
			Casing	-			((;))	10.00			
Groundwater:	X		Diameter (in):	5		a) Well Depth	(ft): > (ft):	43.68			
Other:						c) Water Colur	nn (ft):	24.6			
					-						
			Calcul	ating Purge Vo	lume						
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:	_			
4	0.64					10	1				
	1.47					Note: assuming sand	pack has 29% poros	sity			
Example 1- purging only 2-inch casing and 6-foot w	well casing volume ater column					Example 2- purging v 2-inch casing, 8-inch s	well casing and sar and pack, and 6-foo	nd pack volume ot water column			
One Purge Volume= 0.16	X 6 = 0.96 gallons wat	er				One Purge Volume= (	0.16 X 6) + (0.71 X 6	6) = 5.22 gallons water			
			FIELD	MEASUREME	NTS		-				
Time	Volume (gallons)	~L	Conductivity	Temperature	Color	Turbidity	Bodov	Dissolved O	Othor		
905	(galions)	ρπ 6.42	0.069	(0)	clear	Turbidity	Redux	Dissolved O <sub>2</sub>	Other		
930	40	6.53	0.688	2.9	clear						
950	60	6.48	0.683	2.9	clear						
Total Volume Pur	ged (Gallons):		60		Free Produ	ıct (y/n):	n				
Odor:	strong				Sheen (y/n	):	у				
Purge Method (di	sposable baile	r, teflon bail	er, submersible	pump, etc.)							
typhoon pump											
Sample Method (	disposable bai	ler, teflon ba	iler, submersibl	e pump, etc.)							
tetion bailer											
Well Integrity (cor	ndition of casin	g, flush mou	int sealing prope	erly, cement sea	al intact, etc.	)					
Remarks (well red	covery, unusua	al conditions	/observations):								
PID 161 ppm, slig	ht sheen in pu	rge buckets	, 4" sock in well								
					<u>.</u>						
Duplicate Samp	le ID:				Analyses	Requested:	GRO/BTE>	K/DRO/RRO			
Opin Gample ID					1						
Signad	Hannah				-	Data:	1/0/2000	0			
Signed.	nannan		Dale.	4/0/2008	0						
Signed/reviewer	r:					Date:					

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45512			Sample Locatio	on (ie. MW-1)	):	TH-1				
Project Name:	418 Illinois S	street		Sample ID (ie.	MW-1-W-yyr	nmdd):	TH-1-W-0804	08			
Client:	ARCADIS			Date Sample C	ollected:		4/8/2008				
Sampler:	Hannah, We	ller		Time sampled:			1500				
·	·		W	all Information					,		
			Casing								
Groundwater:	Х		Diameter (in):	2		a) Well Depth	(ft):	23.1			
Othor					b) Water Depth (tt): 18.78						
Other.					-	d) Calc. Purge	Vol. (gal):	4.32			
d) Cáic. Purge Vol. (gái): 0.7											
			Calcula	atina Purae Vo	lume						
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:				
2 4	0.16 0.64					8 10	0.71 1	_			
6	1.47					12 Note: assuming sand	1.28 pack has 29% poros	sitv			
Example 1- purging only	well casing volume					Example 2- purging v	vell casing and sar	nd pack volume			
One Purge Volume= 0.162	X 6 = 0.96 gallons wa	ter				One Purge Volume= (	).16 X 6) + (0.71 X 6	6) = 5.22 gallons water			
			FIELD	MEASUREME	NTS						
Volume         Conductivity         Temperature											
Time	(gallons)	pН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
1453	1	6.43	0.435	2.6	clear	black sand			no odor		
1455	2	6.44	0.432	2.7	clear	none			no odor		
1458	3	6.44	0.433	2.6	clear	none			no odor		
Total Volume Pur	ged (Gallons):		3		Free Produ	ct (y/n):	<u>n</u>	_			
Odor: Purge Method (di	sposable baile	r. teflon bail	er. submersible	pump. etc.)	Sneen (y/n)	:	n				
teflon bailer		,		FF,)							
Comple Method (	dianaaahla hai	lar taflan ha	ilor aubmaraibl	o pump oto )							
teflon bailer	disposable bai	ier, tenon ba	mer, submersible	e pump, etc.)							
Well Integrity (cor	ndition of casin	ıg, flush mou	int sealing prope	erly, cement sea	al intact, etc.)	)					
Remarks (well rec	covery, unusua	al conditions	/observations):								
PID 72.1 ppm											
Duplicato Samp					Applycoc	Poquested:					
Split Sample ID:					Analyses	vequesieu.	GRO/BTE/				
r · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·										
Signed:	Hannah W	eller				Date:	4/8/200	8			
Signou.					Date. 4/0/2000			i -			
Signed/reviewer	r:					Date:					

			GROUNDWA	TER SAMPLE	DATA SHI	EET				
Project Number:	45512			Sample Locatio	n (ie. MW-1)	:	TH-2			
Project Name:	418 Illinois S	treet		Sample ID (ie. I	MW-1-W-yyn	nmdd):	T <u>H-2-W-0804</u>	08		
Client:	ARCADIS			Date Sample C	ollected:		4/8/2008			
Sampler:	Hannah, We	ller		Time sampled:			1635			
			W	ell Information						
			Casing				<i>///</i>			
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):	21.08		
Other <sup>.</sup>						c) Water Colur	nn (ft) <sup>.</sup>	4 16		
					-	d) Calc. Purge	Vol. (gal):	0.7		
			Calcul	ating Purge Vo	lume					
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:	_		
4	0.64					10	1	_		
0	1.47					Note: assuming sand	pack has 29% poro	sity		
Example 1- purging only 2-inch casing and 6-foot wa	well casing volume ater column					Example 2- purging 2-inch casing, 8-inch s	well casing and sai and pack, and 6-foo	nd pack volume ot water column		
One Purge Volume= 0.16 >	rater column       2-inch casing, 8-inch sand pack, and 6-foot water column         X 6 = 0.96 gallons water       One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water									
			FIELD	MEASUREME	NTS					
Volume Conductivity Temperature										
l ime	(galions)	рН	(mS)	(C)	Color	l urbidity	Redox	Dissolved O <sub>2</sub>	Other	
1625	/ 05	6.64	0.471	2.5	light tan	-		_	beavy	
1633	0.0 9.5	6.47	0.472	2.3	light tan				odor	
1000	0.0	0.47	0.407	2.7					0001	
Total Volume Pur	and (Callons):		10		Eree Produ	rt(v/n)	v - free prod	luct beads		
Odor:	strong		10		Sheen (v/n)	:	<u>y - nee prod</u> n	luct beaus		
Purge Method (dis	sposable baile	r, teflon bai	ler, submersible	pump, etc.)	<b>e</b> (j,)	•				
teflon bailer										
Sample Method (	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)						
teflon bailer		-	-	,						
Well Integrity (cor	dition of casin	a flush mo	unt sealing prop	erly cement sea	l intact etc.)					
tron integrity (cor		g, nuon mo			a intelot, oto.)					
PID 101 ppm, pur	ged until bead	s were not	visible in bailer-r	o thickness on	top - no sepa	rae layer on top	, sock in well			
	0					, ,				
Duplicate Samp	le ID:				Analyses F	Requested:	GRO/BTEX	x/dro/rro		
Split Sample ID:	•				4					
Signed:	Hannah, W	eller			-	Date:	4/8/200	8		
Signed/reviewer	·:					Date:				

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45512			Sample Locatio	n (ie. MW-1)	:	TH-5		-		
Project Name:	418 Illinois S	Street		Sample ID (ie. I	MW-1-W-yyn	nmdd):			_		
Client:	ARCADIS			Date Sample C	ollected:		4/8/2008		_		
Sampler:	Hannah, We	eller		Time sampled:					_		
			N	/ell Information							
Croundwater	v		Casing	2		a) Wall Depth (	<b>f</b> t\.	22.4			
b) Water Depth (ft): 15.9											
Other:						c) Water Colun	nn (ft):	6.5			
					-	d) Calc. Purge	Vol. (gal):	1.0			
			Calcul	ating Purge Vo	lume		r				
Well Casing Diameter 2	Multiply c) by: 0.16					Sand Pack Diameter 8	Multiply c) by: 0.71	_			
4	0.64 1.47					10 12	1 1.28	-			
Evenuela 4 evenuira evel						Note: assuming sand	pack has 29% porc	osity			
2-inch casing and 6-foot w	vater column	e				2-inch casing, 8-inch s	and pack, and 6-fo	ot water column			
One Purge Volume= 0.16	X 6 = 0.96 gallons w	vater				One Purge Volume= (	0.16 X 6) + (0.71 X	6) = 5.22 gallons water			
	1	•	FIELD	MEASUREME	NTS	1	T	-			
Time	Volume	nH	Conductivity	Temperature	Color	Turbidity	Dedex	Disselved O	Othor		
Time	(galions)	рп	(113)	(0)	COIOI	Turbidity	Redux	Dissolved O <sub>2</sub>	Other		
Total Volume Pur	ged (Gallons)	:			Free Produ	ct (y/n):					
Odor:	strong when	gauging			Sheen (y/n)	:		_			
Purge Method (di	sposable baile	er, teflon bail	er, submersible	pump, etc.)							
Sample Method (	disposable ba	iler, teflon ba	iler, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casir	ng, flush mou	int sealing prop	erly, cement sea	l intact, etc.)						
Remarks (well red	covery, unusu	al conditions	/observations):								
PID 43.7 ppm, so	ock is frozen in	side well, ca	n't remove cap	- not sampled							
Duplicate Samp	ble ID:				Analyses I	Requested:					
Spiit Sample ID	-				1						
Signed:	Hannah, W	/eller			-	Date:	4/8/2008	8			
Signed/reviewe	r:					Date:					
<b>—</b>											

GROUNDWATER SAMPLE DATA SHEET											
Project Number:	45512			Sample Locatio	on (ie. MW-1)	:	TH-7				
Project Name:	418 Illinois S	street		Sample ID (ie. I	MW-1-W-yyn	nmdd):	H-7-W-0804	08			
Client:	ARCADIS			Date Sample C	ollected:		4/8/2008				
Sampler:	Hannah, We	ller		Time sampled:			1525				
			W	ell Information							
	~		Casing	2			<i>(</i> )	00.57			
Groundwater:	X		Diameter (in):	2		a) Well Depth (	ft): \(ft):				
Other:						c) Water Colun	nn (ft):	5			
					d) Calc. Purge Vol. (gal): 0.8						
, <del></del>											
			Calcula	ating Purge Vo	lume						
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:	_			
4	0.64					10 12	1	_			
						Note: assuming sand	pack has 29% poros	sity			
Example 1- purging only 2-inch casing and 6-foot wa	ater column					2-inch casing, 8-inch s	and pack, and 6-foo	t water column			
One Purge Volume= 0.16 >	K 6 = 0.96 gallons wa	ter				One Purge Volume= (0	0.16 X 6) + (0.71 X 6	6) = 5.22 gallons water			
			FIELD	MEASUREME	NTS	•	I				
Time	Volume (gallons)	Volume Conductivity Temperature (gallops) pH (mS) (C) Color Turbidity Redox Dissolved Q <sub>2</sub>									
1520	(guilorio) 1	6.57	0.351	34	clear	none	Redux		slight		
1523	2	6.58	0.397	3.5	clear	none			oligin		
1525	3	6.58	0.398	3.5	clear	none					
									L		
Total Volume Pure	ged (Gallons):		3		Free Produc	ct (y/n):	n				
Odor:	moderate wh	nen gauging			Sheen (y/n)	:	n				
Purge Method (dis teflon bailer	sposable baile	r, teflon baile	er, submersible	pump, etc.)							
Sample Method (o	disposable bai	ler, teflon ba	iler, submersible	e pump, etc.)							
tenon baller											
Well Integrity (con	dition of casin	ıg, flush mou	nt sealing prope	erly, cement sea	al intact, etc.)						
Remarks (well rec	overy, unusua	al conditions/	observations):								
PID 0.6 ppm											
Duplicato Samo						Poquested:					
Solit Sample ID:	ie iD.				Analyses r	requested.	GRU/DIE/				
· · · · · · · · · · · · · · · · · · ·					<u> </u>						
Signed:	Hannah, W	eller			-	Date:	4/8/2008	3			
Signed/reviewer	·					Date:					

			GROUNDWA	TER SAMPLE	DATA SHE	ET			
Project Number:	45512			Sample Location	(ie. MW-1):		TH-10		_
Project Name:	418 Illinois S	treet		Sample ID (ie. M	W-1-W-yymi	ndd): T	H-10-W-0804	08	_
Client:	ARCADIS			Date Sample Co	llected:		4/8/2008		_
Sampler:	Hannah, We	ller		Time sampled:			1430		
			v	lell Information					1
			Casing				<i>(</i> ,)		
Groundwater:	X		Diameter (in):	2		a) Well Depth (	(ft):	23.9	
Other:						c) Water Colum	nn (ft):	7.08	
					•	d) Calc. Purge	Vol. (gal):	1.1	
			Calcul	ating Purge Vol	ume				
Well Casing Diameter	Multiply c) by: 0.16					Sand Pack Diameter	Multiply c) by: 0.71	_	
4	0.64					10	1 1 28	4	
						Note: assuming sand	pack has 29% porosi	ity	
2-inch casing and 6-foot w	ater column					2-inch casing, 8-inch si	and pack, and 6-foot	water column	
One Purge Volume= 0.16	X 6 = 0.96 gallons wat	ter				One Purge Volume= (U	).16 X 6) + (0.71 X 6)	= 5.22 gallons water	
	<b>I</b> 57 1 <b>I</b>		FIELD		ITS	I		T	
Time	Volume (gallons)	nН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox		Other
1420	(guiloris) 1	616	0.374	24	clear	none	Redux		no odor
1423	2.5	6.60	0.374	2.5	clear	none			no odor
1425	3.5	6.54	0.373	2.6	clear	none		1	no odor
Total Volume Pur	ged (Gallons):		3.5		Free Produ	ct (y/n):	n	_	
Odor:					Sheen (y/n)	:	n		
Purge Method (di teflon bailer	sposable baile	r, teflon bail	er, submersible	pump, etc.)					
tenon baller									
Sample Method (	disposable bai	ler, teflon ba	ailer, submersible	e pump, etc.)					
terion bailer									
Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prope	erly, cement seal	intact, etc.)				
Remarks (well red	covery, unusua	al conditions	/observations):						
PID 0.0 ppm, ice	in monument								
					I			(000 (0000	
Duplicate Samp	le ID:	DUP-1-W-	080408 @ 080	0	Analyses H	Requested:	GRO/BIEX	/DRO/RRO	
Opin Gample ID	•								
Signed <sup>.</sup>	Hannah W	eller				Date <sup>.</sup>	4/8/2008		
Signed/reviewe	r:					Date:			
			GROUNDWA	TER SAMPLE	E DATA SH	EET			
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Project Number:	45512			Sample Location	on (ie. MW-1)	):	TH-13		
Project Name:	418 Illinois S	treet		Sample ID (ie.	MW-1-W-yyn	۲ <u>H-13-W-080</u>	410		
Client:	ARCADIS			Date Sample C	ollected:		4/10/2008		
Sampler:	Hannah, We	ller		Time sampled:			1345		
			N	ell Information	1				
			Casing						
Groundwater:	X		Diameter (in):	2		a) Well Depth	(ft):		
Othor						b) Water Dept	n (ft): mn (ft):	<u> </u>	
Other.					-	d) Calc. Purge	Vol. (gal):	0.9	
						u) ouloi r uigo	von (gui).	0.0	
			Calcul	ating Purge Vo	olume				
Well Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:	_	
2 4	0.16 0.64					8 10	0.71	-	
6	1.47					12 Note: assuming same	1.28 1 pack bas 29% por	osity	
Example 1- purging only	y well casing volume	I				Example 2- purging	well casing and sa	nd pack volume	
One Purge Volume= 0.16	X 6 = 0.96 gallons wa	ater				2-inch casing, 8-inch One Purge Volume=	sand pack, and 6-fo (0.16 X 6) + (0.71 X	ot water column 6) = 5.22 gallons water	
			FIFI (		NTS				
	Volume		Conductivity	Temperature		T			
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other
1320	1	6.23	0.655	3.1	clear	very low			no odor
1325	2	6.29	0.648	3.1	clear	very low			no odor
1330	3	6.28	0.649	3.1	clear	very low			
			-						
<b>T</b> ( 1) ( 1 ) D									
Total Volume Pur	rged (Gallons):		3		Free Produ	ict (y/n):	<u>n</u>	_	
Purge Method (di	isposable baile	r, teflon bai	ler, submersible	pump, etc.)	Sheen (y/h)	).	11		
peri pump	•								
Sample Method (	disposable bai	ler, teflon b	ailer, submersibl	e pump, etc.)					
peri pump		,		o panip, etc.)					
		- (l l							
some jacking, bot	ndition of casin	g, flush mo lent allows v	unt sealing prop	eriy, cement sea	al Intact, etc.) ed sidewavs	)			
como jacimig, zo					ea elaenaje				
Remarks (well re	covery, unusua	al conditions	/observations):						
PID 0.0 ppm, per	i pumped beca	use heaved	I casing was und	der monument fi	ange - bailer	could not fit			
Duplicate Same	ole ID:				Analyses	Requested:	GRO/BTE	X/DRO/RRO	
Split Sample ID	):						VOC's/EDI	B/metals/PAH's	
•									
Signed:	Hannah, W	eller				Date:	4/8/200	8	· · · · · · · · · · · · · · · · · · ·
Signed/reviewe	er:					Date:			

			GROUNDWA	TER SAMPLE	DATA SH	EET					
Project Number:	45512			Sample Locatio	n (ie. MW-1)	:	TH-17				
Project Name:	418 Illinois S	treet		Sample ID (ie. I							
Client:	ARCADIS			Date Sample C	ollected:						
Sampler:	Hannah, Wel	ler		Time sampled:							
			W	ell Information							
Croupdwater	V		Casing	C		a) Wall Depth (	ft).				
Groundwater.	<u>^</u>			2		b) Water Depth	n (ft):	-			
Other:					_	c) Water Column (ft):					
						d) Calc. Purge	Vol. (gal):				
	<u> </u>		Calcul	ating Purge Vo	lume		<b></b>	1			
Well Casing Diameter 2	Multiply c) by: 0.16					Sand Pack Diameter 8	Multiply c) by: 0.71	_			
4 6	1.47					10	1.28	_			
Example 1- purging only 2-inch casing and 6-foot w One Purge Volume= 0.16	well casing volume ater column X 6 = 0.96 gallons wat	er				Example 2- purging w 2-inch casing, 8-inch s One Purge Volume= (0	vell casing and san and pack, and 6-foo 0.16 X 6) + (0.71 X 6	a <b>d pack volume</b> t water column 6) = 5.22 gallons water			
					NTO						
	Volume		Conductivity	Temperature	N15	T					
Time	(gallons)	рН	(mS)	(C)	Color	Turbidity	Redox	Dissolved O <sub>2</sub>	Other		
								-			
Total Volume Pur	ged (Gallons):				Free Produ	ct (y/n):		_			
Purge Method (di	sposable baile	r, teflon bail	er, submersible	pump, etc.)	Sheen (y/h)						
Sample Method (	disposable bail	er, teflon ba	ailer, submersibl	e pump, etc.)							
Well Integrity (cor	ndition of casing	g, flush mou	unt sealing prop	erly, cement sea	I intact, etc.)						
Remarks (well red not sampled - un	covery, unusua derwater	l conditions,	/observations):								
Duplicate Samp	le ID:				Analyses I	Requested:					
Split Sample ID	:										
Signed:	Hannah. We	eller				Date:	4/8/2008	3			
Signed/reviewer	r:				-	Date:		-			

			GROUNDWA	TER SAMPLE	DATA SHE	ET				
Project Number:	45512			Sample Location	(ie. MW-1):		TH-18		_	
Project Name:	418 Illinois S	treet		Sample ID (ie. M	W-1-W-yymr	mdd):			-	
Client:	ARCADIS			Date Sample Co	llected:		4/8/2008		-	
Sampler:	Hannah, We	ller		Time sampled:					-	
			V	Vell Information						
Groupdwator	v		Casing	r		a) Wall Dopth (	'f+\·			
Gloundwater.	<u>^</u>	n (ft):								
Other:					_	c) Water Colun	nn (ft):			
d) Calc. Purge Vol. (gal):										
Wall Cooling Diameter	Multiply o) by		Calcu	lating Purge Vol	ume	Cond Back Diameter	Multiply of by			
2	0.16					8	0.71	1		
6	1.47					10	1.28	<u>_</u>		
Example 1- purging only well casing volume     Example 2- purging well casing and pack volume       2 loop project webp column     2 loop project webp column										
One Purge Volume= 0.16	X 6 = 0.96 gallons wat	er				One Purge Volume= (0	0.16 X 6) + (0.71 X 6)	= 5.22 gallons water		
			FIEL	D MEASUREMEN	NTS					
Time	Volume	-11	Conductivity	Temperature	Oslan	Taurk islitus	Dadau	Discretion d.O.	Others	
lime	(galions)	рн	(mS)	(C)	Color	lurbidity	Redox	Dissolved O <sub>2</sub>	Other	
Total Volume Pur Odor:	rged (Gallons):			-	Free Produc Sheen (y/n)	ct (y/n): :		_		
Purge Method (di	isposable baile	r, teflon bail	er, submersible	pump, etc.)						
Sample Method (	disposable bai	ler, teflon ba	ailer, submersibl	e pump, etc.)						
		,	,							
Well Integrity (cor	ndition of casin	g, flush mou	unt sealing prop	erly, cement seal	intact, etc.)					
Remarks (well red not sampled - und	covery, unusua derwater	l conditions	/observations):							
Duplicate Samp	ole ID:				Analyses F	Requested:				
Split Sample ID	: -				-					
Signed:	Hannah. W	eller			1	Date:	4/8/2008	6		
		-			-	Data			1	
Signed/reviewe	r:					Date:				

# ARCADIS

Appendix B

Laboratory Data Reports



June 10, 2008

Greg Montgomery Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

RE: 306456 (328.5 Illinois)

Enclosed are the results of analyses for samples received by the laboratory on 04/15/08 09:35. The following list is a summary of the Work Orders contained in this report, generated on 06/10/08 16:15.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BRD0203	306456 (328.5 Illinois)	Chevron Alaska Sampling

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

## ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Matrix	Date Sampled	Date Received
BRD0203-01	Water	04/11/08 18:00	04/15/08 09:35
BRD0203-02	Water	04/11/08 17:15	04/15/08 09:35
BRD0203-03	Water	04/11/08 19:00	04/15/08 09:35
BRD0203-04	Water	04/11/08 19:35	04/15/08 09:35
BRD0203-05	Water	04/12/08 09:40	04/15/08 09:35
BRD0203-06	Water	04/12/08 14:15	04/15/08 09:35
BRD0203-07	Water	04/12/08 11:50	04/15/08 09:35
BRD0203-08	Water	04/12/08 15:35	04/15/08 09:35
BRD0203-09	Water	04/11/08 15:50	04/15/08 09:35
BRD0203-10	Water	04/12/08 15:00	04/15/08 09:35
BRD0203-11	Water	04/11/08 16:40	04/15/08 09:35
BRD0203-12	Water	04/12/08 10:30	04/15/08 09:35
BRD0203-13	Water	04/11/08 08:00	04/15/08 09:35
BRD0203-14	Water	04/11/08 06:00	04/15/08 09:35
	Laboratory ID BRD0203-01 BRD0203-02 BRD0203-03 BRD0203-04 BRD0203-05 BRD0203-06 BRD0203-07 BRD0203-07 BRD0203-09 BRD0203-10 BRD0203-11 BRD0203-12 BRD0203-13 BRD0203-14	Laboratory ID         Matrix           BRD0203-01         Water           BRD0203-02         Water           BRD0203-03         Water           BRD0203-04         Water           BRD0203-05         Water           BRD0203-06         Water           BRD0203-07         Water           BRD0203-08         Water           BRD0203-09         Water           BRD0203-10         Water           BRD0203-11         Water           BRD0203-12         Water           BRD0203-13         Water	Laboratory IDMatrixDate SampledBRD0203-01Water04/11/08 18:00BRD0203-02Water04/11/08 17:15BRD0203-03Water04/11/08 19:00BRD0203-04Water04/11/08 19:35BRD0203-05Water04/12/08 09:40BRD0203-06Water04/12/08 14:15BRD0203-07Water04/12/08 11:50BRD0203-08Water04/12/08 15:35BRD0203-10Water04/11/08 15:50BRD0203-11Water04/12/08 15:00BRD0203-12Water04/11/08 16:40BRD0203-13Water04/11/08 08:00BRD0203-14Water04/11/08 06:00

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

### Arcadis, Geraghty, & Miller - Seattle

Seattle, WA/USA 98102

2300 Eastlake Avenue East, Suite 100

Project Name: Project Number: Project Manager:

## 306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery Report Created: 06/10/08 16:15

Analytical Case Narrative

TestAmerica - Seattle, WA

### BRD0203

### SAMPLE RECEIPT

The samples were received 04/15/08 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 2.1 degrees Celsius.

### PREPARATIONS AND ANALYSIS

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

Revised Report Issued 06/10/08

Per Client request sample MW-6-W-080412 was changed to MW-6-W-080411 and the sampleing date was changed to 04/11/08. Sample MW-4-W-080412 was changed to MW-4-W-080411

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** 

 Chevron Alaska Sampling

 Greg Montgomery

Report Created: 06/10/08 16:15

	Gasoline Ra	inge Hydro	ocarbo Tes	<b>ns (n-H</b> tAmerica	<b>lexane</b> a Seattle	to <n-< th=""><th>-Decane)</th><th>by AK101</th><th></th><th></th><th></th></n-<>	-Decane)	by AK101			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0203-01 (GEI-2-W-080411)		١	Water			Sample	ed: 04/11/08 1	8:00			
Gasoline Range Hydrocarbons	AK 101	184000		10000	ug/l	200x	8D18044	04/18/08 16:02	04/18/08 21:23	KMT	
Surrogate(s): 4-BFB (FID)			90.0%		60 -	120 %	Ix			"	
BRD0203-02 (GEI-3-W-080411)		v	Water			Sample	ed: 04/11/08 1	7:15			
Gasoline Range Hydrocarbons	AK 101	30500		10000	ug/l	200x	8D18044	04/18/08 16:02	04/18/08 22:28	KMT	
Surrogate(s): 4-BFB (FID)			89.3%		60 -	120 %	Ix			"	
BRD0203-03RE1 (GEI-4-W-080411)	1	v	Water			Sample	ed: 04/11/08 1	9:00			
Gasoline Range Hydrocarbons	AK 101	1780		250	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 07:12	KMT	Q8
Surrogate(s): 4-BFB (FID)			116%		60 -	- 120 %	1x			"	
BRD0203-04RE1 (GEI-9-W-080411)	1	v	Water			Sample	ed: 04/11/08 1	9:35			
Gasoline Range Hydrocarbons	AK 101	1290		1000	ug/l	20x	8D20005	04/20/08 12:20	04/20/08 18:27	KMT	A-01, BQC, Q8
Surrogate(s): 4-BFB (FID)			91.1%		60 -	- 120 %	1x			"	
BRD0203-04RE2 (GEI-9-W-080411)	1	v	Water			Sample	ed: 04/11/08 1	9:35			
Gasoline Range Hydrocarbons	AK 101	397		250	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 07:44	KMT	Q8
Surrogate(s): 4-BFB (FID)			92.5%		60 -	120 %	1x			"	
BRD0203-05RE1 (GEI-10-W-080412	2)	v	Water		Sampled: 04/12/08 09:40						
Gasoline Range Hydrocarbons	AK 101	ND		1000	ug/l	20x	8D20005	04/20/08 12:20	04/20/08 22:47	KMT	A-01, BQC
Surrogate(s): 4-BFB (FID)			91.6%		60 -	- 120 %	1x			"	
BRD0203-05RE2 (GEI-10-W-080412	2)	v	Water			Sample	ed: 04/12/08 0	9:40			
Gasoline Range Hydrocarbons	AK 101	640		250	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 08:17	KMT	Q8
Surrogate(s): 4-BFB (FID)			101%		60 -	120 %	1x			"	
BRD0203-06 (GEI-11-W-080412)		v	Water			Sample	ed: 04/12/08 1	4:15			
Gasoline Range Hydrocarbons	AK 101	101000		10000	ug/l	200x	8D18044	04/18/08 16:02	04/19/08 03:56	KMT	
Surrogate(s): 4-BFB (FID)			91.0%		60 -	120 %	lx			"	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

er: Chevron Alaska Sampling ger: Greg Montgomery

Report Created: 06/10/08 16:15

	Gasoline Ra	nge Hydro	ocarbo Tes	<b>ns (n-H</b> tAmerica	<b>lexane</b> a Seattle	to <n-< th=""><th>-Decane) l</th><th>oy AK101</th><th></th><th></th><th></th></n-<>	-Decane) l	oy AK101			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0203-07RE1 (GEI-12-W-080412)	)	,	Water			Sample	d: 04/12/08 1	1:50			
Gasoline Range Hydrocarbons	AK 101	4900		1000	ug/l	20x	8D20005	04/20/08 12:20	04/20/08 19:32	KMT	
Surrogate(s): 4-BFB (FID)			95.1%		60 -	120 %	lx			"	
BRD0203-08RE2 (MW-2-W-080412)		v	Water			Sample	d: 04/12/08 1	5:35			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 05:02	KMT	
Surrogate(s): 4-BFB (FID)			90.0%		60 -	120 %	"			"	
BRD0203-09RE2 (MW-4-W-080411)		v	Water			Sample	d: 04/11/08 1	5:50			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 05:34	KMT	
Surrogate(s): 4-BFB (FID)			88.4%		60 -	120 %	"			"	
BRD0203-10 (MW-5-W-080412)		,	Water			Sample	d: 04/12/08 1	5:00			
Gasoline Range Hydrocarbons	AK 101	29700		10000	ug/l	200x	8D18044	04/18/08 16:02	04/19/08 08:51	KMT	
Surrogate(s): 4-BFB (FID)			95.2%		60 -	120 %	lx			"	
BRD0203-11RE1 (MW-6-W-080411)		v	Water			Sample	d: 04/11/08 1	6:40			
Gasoline Range Hydrocarbons	AK 101	77.1		50.0	ug/l	1x	8D20005	04/20/08 12:20	04/21/08 04:45	KMT	
Surrogate(s): 4-BFB (FID)			85.8%		60 -	120 %	"			"	
BRD0203-12RE1 (K-5-W-080412)		v	Water			Sample	d: 04/12/08 1	0:30			
Gasoline Range Hydrocarbons	AK 101	195		50.0	ug/l	1x	8D20005	04/20/08 12:20	04/21/08 05:18	KMT	Q8
Surrogate(s): 4-BFB (FID)			128%		60 -	120 %	"			"	ZX
BRD0203-13RE1 (DUP-1-W-080411)		v	Water			Sample	d: 04/11/08 0	8:00			
Gasoline Range Hydrocarbons	AK 101	2140		1000	ug/l	20x	8D20005	04/20/08 12:20	04/21/08 00:58	KMT	Q8
Surrogate(s): 4-BFB (FID)			97.6%		60 -	120 %	lx			"	
BRD0203-14 (QA-T-1-W-080411)			Water			Sample	d: 04/11/08 0	6:00			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	8D18044	04/18/08 16:02	04/19/08 01:12	KMT	
Surrogate(s): 4-BFB (FID)			93.6%		60 -	120 %	"			"	

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

# Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103

				Tes	tAmerica	Seattle							
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	t	Notes
BRD0203-01 (C	GEI-2-W-080411)		1	Water			Sample	ed: 04/11/08 1	8:00				
Diesel Range Hydroc	arbons	AK102_103	45.7		0.500	mg/l	5x	8D17016	04/17/08 09:18	04/21/08 15:01	EKK		
Residual Range Organ	iics	"	ND		3.75	"	"	"	"	"	EKK		RL1
Surrogate(s):	2-FRP			251%		50 -	150 %	"			"	ZX	
(), (i), (i), (i), (i), (i), (i), (i), (	Octacosane			98.3%		50 -	150 %	"			"		
BRD0203-02 (C	GEI-3-W-080411)			Water			Sample	ed: 04/11/08 1	7:15				
Diesel Range Hydroc	arbons	AK102_103	40.8		0.472	mg/l	5x	8D17016	04/17/08 09:18	04/21/08 15:26	EKK		
Residual Range Organ	iics	"	ND		3.54	"	"		"	"	EKK		RL1
Surrogate(s):	2-FBP			179%		50 -	150 %	"			"	ZX	
(	Octacosane			101%		50 -	150 %	"			"		
BRD0203-03 (C	GEI-4-W-080411)			Water			Sample	ed: 04/11/08 1	9:00				
Residual Range Organ	iics	AK102_103	ND		4.12	mg/l	5x	8D17016	04/17/08 09:18	04/21/08 15:53	EKK		RL1
Surrogate(s):	2-FBP			266%		50 -	150 %	"			"	ZX	
(	Octacosane			137%		50 -	150 %	"			"		
BRD0203-03RE1	(GEI-4-W-080411)		,	Water			Sample	ed: 04/11/08 1	9:00				
Diesel Range Hydroc	arbons	AK102_103	192		2.20	mg/l	20x	8D17016	04/17/08 09:18	04/22/08 13:19	EKK		Q1
Surrogate(s):	2_FRP			223%		50 -	150 %	"			"	ZX	
Surroguie(s). 2	Octacosane			118%		50 -	150 %	"			"		
BRD0203-04 (C	GEI-9-W-080411)			Water			Sample	ed: 04/11/08 1	9:35				
Diesel Range Hydroc	arbons	AK102_103	34.1		0.481	mg/l	5x	8D17016	04/17/08 09:18	04/21/08 16:19	EKK		Q1
Residual Range Organ	iics	"	ND		3.61	"	"		"	"	EKK		RL1
Surrogate(s):	2-FBP			178%		50 -	150 %	"			"	ZX	
(	Octacosane			97.3%		50 -	150 %	"			"		
			_				~ .						
BRD0203-05 (C	GEI-10-W-080412)			Water			Sample	ed: 04/12/08 0	9:40				
Diesel Range Hydroc	arbons	AK102_103	18.7		0.476	mg/l	5x	8D17016	04/17/08 09:18	04/21/08 16:45	EKK		
Residual Range Organ	nics	"	ND		3.57	"	"	"	"	"	EKK		RL1
Surrogate(s):	2-FBP			144%		50 -	150 %	"			"		
(	Octacosane			102%		50 -	150 %	"			"		

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

Chevron Alaska Sampling Greg Montgomery

306456 (328.5 Illinois)

Report Created: 06/10/08 16:15

### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 TestAmerica Seattle Analyte Method MRL Units Dil Batch Prepared Result MDL\* Analyzed Analyst Notes BRD0203-06 Water Sampled: 04/12/08 14:15 (GEI-11-W-080412) EKK Residual Range Organics AK102\_103 ND 3.64 mg/l 5x 8D17016 04/17/08 09:18 04/21/08 17:11 RL1 2-FBP 228% 50 - 150 % " ΖX Surrogate(s): 110% 50 - 150 % Octacosane Water Sampled: 04/12/08 14:15 BRD0203-06RE1 (GEI-11-W-080412) 04/17/08 09:18 EKK Q1 **Diesel Range Hydrocarbons** AK102\_103 439 -----4.85 mg/l 50x 8D17016 04/22/08 13:48 2-FBP 517% 50 - 150 % ZXSurrogate(s): 101% 50 - 150 % Octacosane Water Sampled: 04/12/08 11:50 BRD0203-07 (GEI-12-W-080412) AK102\_103 3.61 8D17016 04/17/08 09:18 04/21/08 17:38 FKK Residual Range Organics ND ----mg/l 5x RL1 306% 50 - 150 % ZX2-FBP Surrogate(s): 197% ZX 50 - 150 % Octacosane Water Sampled: 04/12/08 11:50 BRD0203-07RE1 (GEI-12-W-080412) 01 **Diesel Range Hydrocarbons** AK102 103 126 1.92 mg/l 20x 8D17016 04/17/08 09:18 04/22/08 14:17 FKK 133% 50 - 150 % 2-FBP Surrogate(s): 255% 50 - 150 % ΖX Octacosane Water Sampled: 04/12/08 15:35 BRD0203-08 (MW-2-W-080412) 04/17/08 09:18 04/21/08 18:04 EKK Q11 AK102 103 0.0943 1x 8D17016 **Diesel Range Hydrocarbons** 1.13 ----mg/l EKK Residual Range Organics " ND 0.708 -----82.7% 50 - 150 % ,, ,, Surrogate(s): 2-FBP104% 50 - 150 % Octacosane Sampled: 04/11/08 15:50 BRD0203-09 (MW-4-W-080411) Water EKK Diesel Range Hydrocarbons AK102\_103 ND ----0.106 mg/l 1x 8D17016 04/17/08 09.18 04/21/08 18:30 .. 0 798 ., .. .. ., EKK ND Residual Range Organics -----85.2% 50 - 150 % Surrogate(s): 2-FBP 99.5% 50 - 150 %

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

Octacosane





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

Chevron Alaska Sampling Greg Montgomery

306456 (328.5 Illinois)

Report Created: 06/10/08 16:15

### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 TestAmerica Seattle Analyte Method Result MDL\* MRL Units Dil Batch Prepared Analyzed Analyst Notes Sampled: 04/12/08 15:00 BRD0203-10 Water (MW-5-W-080412) EKK Residual Range Organics AK102\_103 ND 3.54 mg/l 5x 8D17016 04/17/08 09:18 04/21/08 18:56 RL1 307% 50 - 150 % " 2-FBP ZXSurrogate(s): 104% 50 - 150 % Octacosane Water Sampled: 04/12/08 15:00 BRD0203-10RE1 (MW-5-W-080412) 04/17/08 09:18 EKK Q1 **Diesel Range Hydrocarbons** AK102\_103 165 -----1.89 mg/l 20x 8D17016 04/22/08 14:46 2-FBP 148% 50 - 150 % Surrogate(s): 102% 50 - 150 % Octacosane Water Sampled: 04/11/08 16:40 BRD0203-11 (MW-6-W-080411) 04/17/08 09:18 EKK Q11 AK102\_103 1.10 0.100 8D17016 04/22/08 06:37 **Diesel Range Hydrocarbons** mg/l 1x -----.. .. .. EKK 0.750 Residual Range Organics ND -----50 - 150 % ,, 2-FBP 97.7% Surrogate(s): Octacosane 107% 50 - 150 % Water Sampled: 04/12/08 10:30 (K-5-W-080412) BRD0203-12 04/17/08 09:18 Q1 AK102\_103 0 4 9 0 8D17016 04/22/08 07:03 EKK 24.0 5x **Diesel Range Hydrocarbons** ----mg/l EKK Residual Range Organics ND -----3.68 RL1 163% 50 - 150 % " ,, ΖX 2-FBP Surrogate(s): 114% 50 - 150 % Octacosane Sampled: 04/11/08 08:00 Water BRD0203-13 (DUP-1-W-080411) AK102\_103 EKK 04/17/08 09.18 04/22/08 07.29 RL1 ND 3 68 5x 8D17016 Residual Range Organics ----mg/l 355% 50 - 150 % ZX 2-FBP Surrogate(s): 151% 50 - 150 % ZX Octacosane Sampled: 04/11/08 08:00 Water BRD0203-13RE1 (DUP-1-W-080411) AK102\_103 4 90 8D17016 04/17/08 09:18 04/22/08 15:16 EKK Q1 mg/l 50x Diesel Range Hydrocarbons 215 ----50 - 150 % 268% ZXSurrogate(s): 2-FBP ZX 174% 50 - 150 % Octacosane

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name:
Project Number:
Project Manager:

**BTFX by FPA Method 8021B** 

306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery Report Created: 06/10/08 16:15

			DI	Tes	tAmerica	a Seattle	00210	•				
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0203-01	(GEI-2-W-080411)			Water			Sampleo	d: 04/11/08 1	18:00			
Benzene		EPA 8021B	4530		100	ug/l	200x	8D18044	04/18/08 16:02	04/18/08 21:23	KMT	
Toluene		"	44900		100	"	"	"		•	KMT	E, BQC
Ethylbenzene		"	3520		100	"	"	"		•	KMT	
Xylenes (total)		"	22200		200	"	"	"	"	"	KMT	
Surrogate(s).	4-BFB (PID)			103%		68 -	140 %	1x			"	
BRD0203-01RI	E1 (GEI-2-W-08041	1)	,	Water			Sampleo	d: 04/11/08 1	18:00			
Toluene		EPA 8021B	49300		500	ug/l	1000 x	8D20005	04/20/08 12:20	04/21/08 02:03	KMT	
Surrogate(s).	: 4-BFB (PID)			99.4%		68 -	140 %	lx			"	
BRD0203-02	(GEI-3-W-080411)		,	Water			Sampleo	d: 04/11/08 1	7:15			
Benzene		EPA 8021B	ND		100	ug/l	200x	8D18044	04/18/08 16:02	04/18/08 22:28	KMT	RL1
Toluene		"	1460		100	"	"	"			KMT	
Ethylbenzene		"	359		100	"		"			KMT	
Xylenes (total)		"	8440		200	"	"	"		"	KMT	
Surrogate(s).	4-BFB (PID)			103%		68 -	140 %	lx			"	
BRD0203-03RI	E1 (GEI-4-W-08041	1)		Water			Sampleo	d: 04/11/08 1	19:00			
Benzene		EPA 8021B	15.0		2.50	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 07:12	KMT	
Toluene			ND		2.50	"	"				KMT	RL1
Ethylbenzene		"	56.8		2.50	"		"			KMT	
Xylenes (total)		"	229		5.00	"	"	"		"	KMT	
Surrogate(s).	: 4-BFB (PID)			111%		68 -	140 %	1x			"	
BRD0203-04RI	E1 (GEI-9-W-08041	1)		Water			Sampleo	d: 04/11/08 1	19:35			
Benzene		EPA 8021B	ND		10.0	ug/l	20x	8D20005	04/20/08 12:20	04/20/08 18:27	KMT	A-01, BQC
Toluene			ND		10.0	"	"	"		"	KMT	A-01, BQC
Ethylbenzene		"	54.6		10.0	"	"	"		"	KMT	A-01, BQC
Xylenes (total)		"	ND		20.0	"		"	"	"	KMT	A-01, BQC
Surrogate(s).	: 4-BFB (PID)			99.7%		68 -	140 %	lx			"	

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name:
Project Number:
Project Manager:

306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### BTEX by EPA Method 8021B TestAmerica Seattle Analyte Method Result MDL\* MRL Units Dil Batch Prepared Analyzed Analyst Notes Water Sampled: 04/11/08 19:35 BRD0203-04RE2 (GEI-9-W-080411) KMT Benzene EPA 8021B ND 2.50 ug/l 5x 8D21031 04/21/08 12:29 04/22/08 07:44 RL1 .. 2.50 .. KMT Toluene ND -----RL1 .. .. ... KMT 2 50 Ethylbenzene 9.61 -----.. .. ., KMT Xylenes (total) 42.7 5.00 Surrogate(s): 4-BFB (PID) 101% 68 - 140 % 1x Sampled: 04/12/08 09:40 Water BRD0203-05RE1 (GEI-10-W-080412) Benzene EPA 8021B ND 10.0 ug/l 20x 8D20005 04/20/08 12:20 04/20/08 22:47 KMT A-01, BQC .. KMT .. 10.0 A-01, BQC Toluene ND -----.. КМТ A-01, BOC 10.0 Ethylbenzene 15.9 ----KMT A-01, BQC **Xylenes** (total) 68.7 -----20.0 4-BFB (PID) 100% 68 - 140 % lx.. Surrogate(s): Water Sampled: 04/12/08 09:40 BRD0203-05RE2 (GEI-10-W-080412) EPA 8021B 8D21031 04/21/08 12:29 04/22/08 08.17 KMT ND 2 50 RL1 Benzene ----ug/l 5x KMT Toluene ... ND 2.50 .. ... RL1 -----2.50 кмт Ethylbenzene 16.4 ., KMT 5.00 **Xylenes** (total) 66.9 ----105% 68 - 140 % 1r ,, 4-BFB (PID) Surrogate(s): Water Sampled: 04/12/08 14:15 BRD0203-06 (GEI-11-W-080412) EPA 8021B 100 200x 8D18044 04/18/08 16:02 04/19/08 03:56 KMT Benzene 5630 ug/l 100 " ., KMT 1930 Ethylbenzene -----.. ., КМТ Xylenes (total) 11100 200 Surrogate(s): 4-BFB (PID) 106% 68 - 140 % lxSampled: 04/12/08 14:15 Water BRD0203-06RE1 (GEI-11-W-080412) Toluene EPA 8021B 21300 500 ug/l 1000 8D20005 04/20/08 12:20 04/21/08 02:35 KMT x 98.9% ,,

4-BFB (PID) Surrogate(s):

68 - 140 % 1x

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name:
Project Number:
Project Manager:

**306456 (328.5 Illinois)** 

Chevron Alaska Sampling Greg Montgomery Report Created: 06/10/08 16:15

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	No
BRD0203-07RE1 (GEI-12-	W-080412)	v	Vater		:	Sampled	: 04/12/08 1	1:50			
Benzene	EPA 8021B	86.3		10.0	ug/l	20x	8D20005	04/20/08 12:20	04/20/08 19:32	KMT	
Toluene	"	102		10.0	"	"	"	"	"	KMT	
Ethylbenzene	"	145		10.0	"	"	"		"	KMT	
Xylenes (total)	"	979		20.0	"	"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)	)		99.6%		68	140 %	lx			"	
BRD0203-08RE2 (MW-2-V	V-080412)	v	Vater		:	Sampled	: 04/12/08 1	5:35			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 05:02	KMT	
Toluene	"	ND		0.500	"	"	"		"	KMT	
Ethylbenzene	"	ND		0.500	"	"	"		"	KMT	
Xylenes (total)	"	ND		1.00	"		"	"	"	KMT	
Surrogate(s): 4-BFB (PID)	)		99.9%		68	140 %	"			"	
BRD0203-09RE2 (MW-4-V	V-080411)	v	Vater		:	Sampled	: 04/11/08 1	5:50			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 05:34	KMT	
Toluene	"	ND		0.500	"	"	"	"	"	KMT	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	KMT	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)	)		99.4%		68	140 %	"			"	
BRD0203-10 (MW-5-W-0	980412)	v	Vater		:	Sampled	: 04/12/08 1	5:00			
Benzene	EPA 8021B	152		100	ug/l	200x	8D18044	04/18/08 16:02	04/19/08 08:51	KMT	
Toluene	"	2530		100	"	"	"	"	"	KMT	
Ethylbenzene	"	627		100		"	"	"	"	KMT	
Xylenes (total)	"	6030		200	"	"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)	)		107%		68	140 %	lx			"	
BRD0203-11RE1 (MW-6-V	V-080411)	v	:	Sampled	: 04/11/08 1	6:40					
Benzene	EPA 8021B	17.4		0.500	ug/l	1x	8D20005	04/20/08 12:20	04/21/08 04:45	KMT	
Toluene	"	ND		0.500	"	"	"	"	"	KMT	
Ethylbenzene	"	ND		0.500		"		"	"	KMT	
Xylenes (total)	"	ND		1.00			"	"	"	KMT	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,

without the written approval of the laboratory.





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name:
Project Number:
Project Manager:

306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery Report Created: 06/10/08 16:15

### BTEX by EPA Method 8021B TestAmerica Seattle Analyte Method Result MDL\* MRL Units Dil Batch Prepared Analyzed Analyst Notes Sampled: 04/12/08 10:30 Water BRD0203-12RE1 (K-5-W-080412) KMT Benzene EPA 8021B ND \_\_\_\_ 0.500 ug/l $1 \mathrm{x}$ 8D20005 04/20/08 12:20 04/21/08 05:18 .. 0.500 .. ... .. .. KMT Toluene ND -----.. 0.758 .. ., KMT 0.500 Ethylbenzene -----.. ., ., ... ... .. KMT **Xylenes** (total) 2.80 1.00 \_\_\_\_ " Surrogate(s): 4-BFB (PID) 117% 68 - 140 % Sampled: 04/11/08 08:00 BRD0203-13RE1 Water (DUP-1-W-080411) EPA 8021B 13.4 10.0 ug/l 20x 8D20005 04/20/08 12:20 04/21/08 00:58 KMT Benzene -----.. KMT ., ND 10.0 .. RL1 Toluene -----... .. .. ... KMT 10.0 ... Ethylbenzene 60.1 -----., .. KMT **Xylenes** (total) 268 -----20.0Surrogate(s): 4-BFB (PID) 104%68 - 140 % lxWater Sampled: 04/11/08 06:00 BRD0203-14 (QA-T-1-W-080411) EPA 8021B 0.500 8D18044 04/18/08 16:02 04/19/08 01:12 KMT Benzene ND ug/l $1 \mathrm{x}$ -----.. ., .. ., КМТ Toluene ND 0.500 -----.. .. KMT Ethylbenzene ND -----0.500 .. 1.00 .. ., KMT Xylenes (total) ND -----102% 68 - 140 % Surrogate(s): 4-BFB (PID)

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

er: Chevron Alaska Sampling ger: Greg Montgomery

Report Created: 06/10/08 16:15

### Total Metals by EPA 6000/7000 Series Methods TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0203-01	(GEI-2-W-080411)		V	Vater		!	Sampled	: 04/11/08 18	3:00			
Arsenic		EPA 6010B	ND		0.100	mg/l	1x	8D16050	04/16/08 16:48	04/17/08 16:10	WAS	
Barium		"	0.381		0.0500			"		"	WAS	
Cadmium		"	0.00790		0.00500	"		"			WAS	
Chromium		"	ND		0.0100	"		"			WAS	
Lead		"	ND		0.0500					"	WAS	
Mercury		EPA 7470A	ND		0.000200	"		8D16048	04/16/08 16:44	04/17/08 15:27	WAS	
Selenium		EPA 6010B	ND		0.150	"		8D16050	04/16/08 16:48	04/17/08 16:10	WAS	
Silver		"	ND		0.0100	"		"	"	"	WAS	

BRD0203-07	(GEI-12-W-080412)		W	ater			Sampled:	:50			
Arsenic		EPA 6010B	ND		0.100	mg/l	1x	8D16050	04/16/08 16:48	04/17/08 16:21	WAS
Barium		"	0.527		0.0500	"		"			WAS
Cadmium		"	ND		0.00500	"					WAS
Chromium		"	0.0451		0.0100	"		"			WAS
Lead		"	ND		0.0500	"	"				WAS
Mercury		EPA 7470A	ND		0.000200	"		8D16048	04/16/08 16:44	04/17/08 15:29	WAS
Selenium		EPA 6010B	ND		0.150	"		8D16050	04/16/08 16:48	04/17/08 16:21	WAS
Silver		"	ND		0.0100	"				"	WAS

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: 306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery Report Created: 06/10/08 16:15

EDB and DBCP by EPA Method 8011 TestAmerica Seattle														
Analyte Method Result MDL* MRL Units Dil Batch Prepared Analyzed Analyst Notes														
BRD0203-01RE1 (GEI-2-W-080411	BRD0203-01RE1 (GEI-2-W-080411) Water Sampled: 04/11/08 18:00													
1,2-Dibromoethane (EDB)	EPA 8011M	73.3	5.00	ug/l	500x	8D15016	04/15/08 09:10	04/16/08 09:52	gma					
BRD0203-06RE1 (GEI-11-W-08041	(2)	Water			Sampled	: 04/12/08 1	4:15							
1,2-Dibromoethane (EDB)	EPA 8011M	2.13	0.200	ug/l	20x	8D15016	04/15/08 09:10	04/16/08 10:16	gma					
BRD0203-07 (GEI-12-W-080412) Water Sampled: 04/12/08 11:50														
1,2-Dibromoethane (EDB)	EPA 8011M	ND	0.010	ug/l	1x	8D15016	04/15/08 09:10	04/16/08 01:31	gma					

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Volatile Organic Compounds by EPA Method 8260B TestAmerica Seattle

Analyte	Method	Result MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0203-01 (GEI-2-W-080411)		Water		5	Sampleo	d: 04/11/08 1	8:00			
Carbon tetrachloride	EPA 8260B	ND	1.00	ug/l	1x	8D15022	04/15/08 08:30	04/15/08 20:36	KPS	
1,2-Dichloroethane	"	ND	1.00	"	"	"	"	"	KPS	
1,1-Dichloroethene		ND	1.00	"	"	"	"	"	KPS	
Tetrachloroethene		ND	1.00	"	"	"	"	"	KPS	
1,1,1-Trichloroethane		ND	1.00	"	"	"	"	"	KPS	
Trichloroethene		ND	1.00		"		"	"	KPS	
Surrogate(s): 1,2-DCA-d4		93.2%		70 - 1	30 %	"			"	
Toluene-d8		100%		75 - 1	25 %	"			"	
4-BFB		116%		75 - 1	25 %	"			"	
BRD0203-07 (GEI-12-W-080412	)	Water	Sampled: 04/12/08		d: 04/12/08 1	1:50				
Carbon tetrachloride	EPA 8260B	ND	1.00	ug/l	1x	8D15022	04/15/08 08:30	04/15/08 21:03	KPS	
1.2-Dichloroethane	"	ND	1.00	"		"		"	KPS	

1,2 Diemoroeunane			118									
1,1-Dichloroethene			ND		1.00	"	"	"		"	KPS	
Tetrachloroethene			ND		1.00	"		"		"	KPS	
1,1,1-Trichloroethar	ie	"	ND		1.00	"				"	KPS	
Trichloroethene		"	ND		1.00	"	"	"	"	"	KPS	
Surrogate(s):	1,2-DCA-d4			98.8%		70 - 1	30 %	"			"	
	Toluene-d8			103%		75 - 1	25 %	"			"	
	4-BFB			110%		75 - 1.	25 %	"			"	

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling

Greg Montgomery

Report Created: 06/10/08 16:15

TestAmerica Seattle													
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes		
BRD0203-01 (GEI-2-W-080411)			Water		:	Sampled	l: 04/11/08 1	8:00					
Acenaphthene	EPA 8270C-SIM	ND		5.00	ug/l	50x	8D17013	04/17/08 09:11	04/25/08 15:16	BAT			
Acenaphthylene		ND		5.00	"	"			"	BAT			
Anthracene		ND		5.00	"	"			"	BAT			
Benzo (a) anthracene		ND		5.00	"	"			"	BAT			
Benzo (a) pyrene		ND		5.00	"	"			"	BAT			
Benzo (b) fluoranthene		ND		5.00	"	"			"	BAT			
Benzo (k) fluoranthene	"	ND		5.00	"	"			"	BAT			
Benzo (ghi) perylene		ND		5.00	"	"			"	BAT			
Chrysene	"	ND		5.00	"	"			"	BAT			
Dibenz (a,h) anthracene		ND		5.00	"	"			"	BAT			
Fluoranthene		ND		5.00	"	"			"	BAT			
Fluorene	"	7.00		5.00	"	"	"		"	BAT			
Indeno (1,2,3-cd) pyrene		ND		5.00	"	"	"		"	BAT			
1-Methylnaphthalene	"	130		5.00	"	"	"	"	"	BAT			
2-Methylnaphthalene	"	182		5.00	"	"	"		"	BAT			
Naphthalene	"	375		5.00	"		"	"	"	BAT			
Phenanthrene	"	ND		5.00	"	"	"		"	BAT			
Pyrene		ND		5.00	"	"		"	"	BAT			

Surrogate(s): p-Terphenyl-d14

20 - 131 %

60.0%

"

Water Sampled: 04/12/08 11:50 BRD0203-07 (GEI-12-W-080412) EPA 8270C-SIM 04/17/08 09:11 BAT Acenaphthene ND 0.943 ug/l 10x 8D17013 04/25/08 15:48 -----... .. BAT Acenaphthylene ND -----0.943 ... 0.943 ., .. .. ., BAT ND Anthracene -----0.943 ... .. .. BAT Benzo (a) anthracene ND -----BAT ND 0.943 Benzo (a) pyrene -----BAT Benzo (b) fluoranthene ND -----0.943 .. .. BAT 0.943 Benzo (k) fluoranthene ND -----0.943 .. BAT ... ... Benzo (ghi) perylene ND -----BAT ND 0.943 Chrysene -----BAT 0.943 Dibenz (a,h) anthracene ND ----BAT Fluoranthene ND -----0.943 0.943 BAT Fluorene 4.34 -----BAT Indeno (1,2,3-cd) pyrene ND -----0.943 BAT 0 943 1-Methylnaphthalene 166 -----BAT 2-Methylnaphthalene 213 0.943 -----BAT Naphthalene 175 0.943 -----

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Curtis D. Armstrong For Blake T. Meinert, Project Manager



SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

Polynuclear Aromatic Hydrocarbons by GC/MS-SIM TestAmerica Seattle															
Analyte		Method Result MDL* MRL Units Dil Batch Prepared Analyzed Analyst Notes													
BRD0203-07	(GEI-12-W-080412	)	۲	Water			Sampleo	l: 04/12/08 1	11:50						
Phenanthrene		EPA 8270C-SIM	1.70		0.943	ug/l 10x 8D17013			04/17/08 09:11	04/25/08 15:48	BAT				
Pyrene			ND 0.943 " " "							" " BAT					
Surrogate(s)	: p-Terphenyl-d14	erphenyl-d14 45.6% 20 - 131 % "													

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### Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

306456 (328.5 Illinois) Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Gasoline Range Hydrocarbons (n-Hexane to <n-Decane) by AK101 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D18044 Water Preparation Method: EPA 5030B (P/T) <sup>₩</sup> (Limits) Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes RPD Result Amt Blank (8D18044-BLK1) Extracted: 04/18/08 16:02 AK 101 50.0 04/18/08 18:06 Gasoline Range Hydrocarbons ND 1x --------ug/l ------" Surrogate(s): 4-BFB (FID) Recovery: 84.5% Limits: 60-120% 04/18/08 18:06 LCS (8D18044-BS1) Extracted: 04/18/08 16:02 1000 94.8% (60-120) Gasoline Range Hydrocarbons AK 101 50.0 04/18/08 18:39 948 --ug/l 1x ---------Surrogate(s): 4-BFB (FID) Recovery: 98.1% Limits: 60-120% " 04/18/08 18:39 Extracted: 04/18/08 16:02 LCS Dup (8D18044-BSD1) Gasoline Range Hydrocarbons AK 101 945 50.0 1000 94.5% (60-120) 0.335% (20) 04/18/08 19:11 --ug/l 1x ---Surrogate(s): 4-BFB (FID) Recovery: 94.4% Limits: 60-120% " 04/18/08 19:11 Extracted: 04/18/08 16:02 Duplicate (8D18044-DUP1) QC Source: BRD0203-01 AK 101 172000 Gasoline Range Hydrocarbons ----10000 ug/l 200x 184000 ---------6.64% (20) 04/18/08 21:55 Surrogate(s): 4-BFB (FID) Recovery: 85.9% Limits: 60-120% *1x* 04/18/08 21:55 Duplicate (8D18044-DUP2) QC Source: BRD0203-02 Extracted: 04/18/08 16:02 Gasoline Range Hydrocarbons AK 101 30300 10000 ug/l 200x 30500 \_\_\_ ------0.659% (20) 04/18/08 23:01 ---Surrogate(s): 4-BFB (FID) Recovery: 89.1% Limits: 60-120% 1x 04/18/08 23:01 Matrix Spike (8D18044-MS1) QC Source: BRD0203-01 Extracted: 04/18/08 16:02 Gasoline Range Hydrocarbons AK 101 400000 10000 ug/l 200x 184000 200000 108% (60-120) 04/19/08 05:34 ---------Surrogate(s): 4-BFB (FID) Recovery: 102% Limits: 60-120% 1x 04/19/08 05:34

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Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

306456 (328.5 Illinois) Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Gasoline Range Hydrocarbons (n-Hexane to <n-Decane) by AK101 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D20005 Water Preparation Method: EPA 5030B (P/T) <sup>₩</sup> (Limits) Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes RPD Result Amt Blank (8D20005-BLK1) Extracted: 04/20/08 12:20 AK 101 50.0 04/20/08 15:44 Gasoline Range Hydrocarbons ND 1x --------ug/l ------" Surrogate(s): 4-BFB (FID) Recovery: 87.3% Limits: 60-120% 04/20/08 15:44 LCS (8D20005-BS1) Extracted: 04/20/08 12:20 Gasoline Range Hydrocarbons AK 101 1030 50.0 1000 103% 04/20/08 16:16 --ug/l 1x ---(60-120) ------Surrogate(s): 4-BFB (FID) Recovery: 94.4% Limits: 60-120% " 04/20/08 16:16 Extracted: 04/20/08 12:20 LCS Dup (8D20005-BSD1) (60-120) Gasoline Range Hydrocarbons AK 101 50.0 1000 98.6% 4.21% (20) 04/20/08 16:49 986 --ug/l 1x ---Surrogate(s): 4-BFB (FID) Recovery: 95.8% Limits: 60-120% " 04/20/08 16:49 Duplicate (8D20005-DUP1) QC Source: BRD0203-04RE1 Extracted: 04/20/08 12:20 AK 101 Gasoline Range Hydrocarbons ND ----1000 ug/l 20x 1290 ---------107% (20) 04/20/08 19:00 R3 Surrogate(s): 4-BFB (FID) Recovery: 90.1% Limits: 60-120% *1x* 04/20/08 19:00 Duplicate (8D20005-DUP2) QC Source: BRD0203-05RE1 Extracted: 04/20/08 12:20 Gasoline Range Hydrocarbons AK 101 ND ---1000 ug/l 20x ND \_\_\_ ---11.0% (20) 04/20/08 23:20 ---Surrogate(s): 4-BFB (FID) Recovery: 89.7% Limits: 60-120% *1x* 04/20/08 23:20 Matrix Spike (8D20005-MS1) QC Source: BRD0203-04RE1 Extracted: 04/20/08 12:20 Gasoline Range Hydrocarbons AK 101 21400 1000 ug/l 20x 1290 20000 100% (60-120) 04/20/08 20:05 ---------Surrogate(s): 4-BFB (FID) Recovery: 98.1% Limits: 60-120% *1x* 04/20/08 20:05

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Curtis D. Armstrong For Blake T. Meinert, Project Manager



### Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

306456 (328.5 Illinois) Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Gasoline Range Hydrocarbons (n-Hexane to <n-Decane) by AK101 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D21031 Water Preparation Method: EPA 5030B (P/T) <sup>₩</sup> (Limits) Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes RPD Result Amt Blank (8D21031-BLK1) Extracted: 04/21/08 12:29 AK 101 50.0 04/21/08 12:55 Gasoline Range Hydrocarbons ND 1x --------ug/l ------Limits: 60-120% " 04/21/08 12:55 Surrogate(s): 4-BFB (FID) Recovery: 87.7% LCS (8D21031-BS1) Extracted: 04/21/08 12:29 1000 98.0% AK 101 50.0 (60-120) 04/21/08 13:28 Gasoline Range Hydrocarbons 980 --ug/l 1x ---------Surrogate(s): 4-BFB (FID) Recovery: 94.5% Limits: 60-120% " 04/21/08 13:28 LCS Dup (8D21031-BSD1) Extracted: 04/21/08 12:29 (60-120) Gasoline Range Hydrocarbons AK 101 1000 50.0 2.26% (20) 04/21/08 14:01 --ug/l 1x ---1000 100% Surrogate(s): 4-BFB (FID) Recovery: 94.9% Limits: 60-120% " 04/21/08 14:01 Duplicate (8D21031-DUP1) QC Source: BRD0280-02 Extracted: 04/21/08 12:29 AK 101 Gasoline Range Hydrocarbons ND ----50.0 ug/l 1x ND ---------NR (20) 04/21/08 16:21 Surrogate(s): 4-BFB (FID) Recovery: 89.6% Limits: 60-120% " 04/21/08 16:21 Duplicate (8D21031-DUP2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 Gasoline Range Hydrocarbons AK 101 442 ---50.0 ug/l 455 \_\_\_ ---2.81% (20) 04/22/08 01:14 1x ---Surrogate(s): 4-BFB (FID) Recovery: 146% Limits: 60-120% " 04/22/08 01:14 ZX Matrix Spike (8D21031-MS1) QC Source: BRD0280-02 Extracted: 04/21/08 12:29 Gasoline Range Hydrocarbons AK 101 1170 50.0 ug/l 1x ND 1000 117% (60-120) 04/21/08 16:54 ---------Surrogate(s): 4-BFB (FID) Recovery: 95.8% Limits: 60-120% " 04/21/08 16:54 Matrix Spike Dup (8D21031-MSD1) QC Source: BRD0280-02 Extracted: 04/21/08 12:29 AK 101 Gasoline Range Hydrocarbons 1140 50.0 1x ND 1000 114% (60-120) 2.23% (20) 04/21/08 17:27 --ug/l Surrogate(s): 4-BFB (FID) Recovery: 96.5% Limits: 60-120% " 04/21/08 17:27

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Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D17016	Water F	Preparation	Method: El	PA 3520C	]									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D17016-BLK1)								Ext	racted:	04/17/08 09	:18			
Diesel Range Hydrocarbons	AK102_103	ND		0.100	mg/l	1x							04/21/08 11:57	
Residual Range Organics	"	ND		0.750	"	"							"	
Surrogate(s): 2-FBP		Recovery:	74.3%	Liı	nits: 50-150%	"							04/21/08 11:57	
Octacosane			88.7%		50-150%	"							"	
LCS (8D17016-BS1)								Ext	racted:	04/17/08 09	:18			
Diesel Range Hydrocarbons	AK102_103	1.64		0.100	mg/l	1x		2.00	82.2%	(75-125)			04/21/08 12:23	
Residual Range Organics	"	1.70		0.750	"	"		"	85.0%	(60-120)			"	
Surrogate(s): 2-FBP Octacosane		Recovery:	76.5% 92.5%	Lii	nits: 50-150% 50-150%	"							04/21/08 12:23 "	
LCS Dup (8D17016-BSD1)								Ext	racted:	04/17/08 09	:18			
Diesel Range Hydrocarbons	AK102_103	1.72		0.100	mg/l	1x		2.00	85.9%	(75-125)	4.36%	6 (20)	04/21/08 12:50	
Residual Range Organics	"	1.70		0.750	"	"		"	85.1%	(60-120)	0.172	/0 "	"	
Surrogate(s): 2-FBP		Recovery:	79.6%	Lii	nits: 50-150%	"							04/21/08 12:50 "	

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

	BT	FEX by EF	PA Method	<b>8021B</b> - TestAmer	Laborat ica Seattle	tory Quរ e	ality Con	trol R	esults					
QC Batch: 8D18044	Water I	Preparation	Method:	EPA 50301	B (P/T)									
Analyte	Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD (I	Limits)	Analyzed	Notes
Blank (8D18044-BLK1)								Ext	racted:	04/18/08 16	5:02			
Benzene	EPA 8021B	ND		0.500	ug/l	1x							04/18/08 18:06	
Toluene	"	ND		0.500	"	"								
Ethylbenzene	"	ND		0.500	"	"								
Xylenes (total)	"	ND		1.00	"	"								
Surrogate(s): 4-BFB (PID)		Recovery:	101%	Li	mits: 68-14	0% "							04/18/08 18:06	
LCS (8D18044-BS2)								Ext	racted:	04/18/08 16	:02			
Benzene	EPA 8021B	29.7		0.500	ug/l	1x		30.0	98.8%	(80-120)			04/18/08 19:44	
Toluene	"	29.7		0.500				"	98.9%					
Ethylbenzene	"	30.0		0.500				"	100%					
Xylenes (total)	"	90.7		1.00				90.0	101%					
Surrogate(s): 4-BFB (PID)		Recovery:	104%	Li	mits: 68-14	0% "							04/18/08 19:44	
LCS Dup (8D18044-BSD2)								Ext	racted:	04/18/08 16	6:02			
Benzene	EPA 8021B	28.5		0.500	ug/l	1x		30.0	95.1%	(80-120)	3.91%	(25)	04/18/08 20:17	
Toluene	"	30.4		0.500	"			"	101%	"	2.36%	"		
Ethylbenzene	"	31.4		0.500				"	105%		4.43%	"		
Xylenes (total)	"	94.9		1.00				90.0	105%		4.50%	"		
Surrogate(s): 4-BFB (PID)		Recovery:	106%	Li	mits: 68-14	0% "							04/18/08 20:17	
Duplicate (8D18044-DUP1)				QC Source	: BRD020.	3-01		Ext	racted:	04/18/08 16	:02			
Benzene	EPA 8021B	4350		100	ug/l	200x	4530				4.07%	(25)	04/18/08 21:55	
Toluene	"	46100		100			44900				2.71%	"		Е
Ethylbenzene	"	3670		100			3520				4.36%	"		
Xylenes (total)	"	23300		200			22200				5.06%			
Surrogate(s): 4-BFB (PID)		Recovery:	107%	Li	mits: 68-14	0% 1x							04/18/08 21:55	
Duplicate (8D18044-DUP2)				QC Source	: BRD0203	3-02		Ext	racted:	04/18/08 16	6:02			
Benzene	EPA 8021B	ND		100	ug/l	200x	ND				18.9%	(25)	04/18/08 23:01	RL1
Toluene	"	1420		100			1460				3.08%	"	"	
Ethylbenzene	"	377		100			359				4.67%		"	
Xylenes (total)	"	8410		200	"	"	8440				0.401%		"	
Surrogate(s): 4-BFB (PID)		Recovery:	102%	Li	mits: 68-14	0% 1x							04/18/08 23:01	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

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		BI	EX by El	PA Method	8021B -	Laborato	ory Qua	ality Con	trol Ro	esults					
					TestAmer	ica Seattle									
QC Batch:	8D18044	Water I	Preparation	n Method:	EPA 5030E	B (P/T)									
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8	D18044-MS2)				QC Source	: BRD0203-	-02		Ext	racted:	04/18/08 1	6:02			
Benzene		EPA 8021B	6560		100	ug/l	200x	26.6	6000	109%	(46-130)			04/19/08 06:07	
Toluene		"	7980		100	"		1460	"	109%	(60-124)				
Ethylbenzene		"	7090		100	"		359	"	112%	(56-141)				
Xylenes (total)		"	27900		200	"		8440	18000	108%	(66-132)				
Surrogate(s):	4-BFB (PID)		Recovery:	104%	Li	mits: 68-1409	% lx							04/19/08 06:07	
QC Batch:	8D20005	Water I	Preparation	n Method:	EPA 5030E	B (P/T)									
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D20005	5-BLK1)								Ext	racted:	04/20/08 1	2:20			
Benzene	,	EPA 8021B	ND		0.500	ug/l	1x							04/20/08 15:44	
Toluene		"	ND		0.500	"									
Ethylbenzene		"	ND		0.500	"									
Xylenes (total)		"	ND		1.00	"									
Surrogate(s):	4-BFB (PID)		Recovery:	97.8%	Li	mits: 68-1409	% "							04/20/08 15:44	
LCS (8D20005-	BS2)								Ext	racted:	04/20/08 1	2:20			
Benzene	,	EPA 8021B	30.0		0.500	ug/l	1x		30.0	100%	(80-120)			04/20/08 17:22	
Toluene		"	29.4		0.500	"			"	98.1%	"				
Ethylbenzene		"	29.4		0.500	"			"	98.1%					
Xylenes (total)		"	90.5		1.00	"			90.0	101%	"				
Surrogate(s):	4-BFB (PID)		Recovery:	97.3%	Li	mits: 68-1409	% "							04/20/08 17:22	
LCS Dup (8D20	)005-BSD2)								Ext	racted:	04/20/08 1	2:20			
Benzene	,	EPA 8021B	28.8		0.500	ug/l	1x		30.0	96.1%	(80-120)	4.15%	6 (25)	04/20/08 17:54	
Toluene		"	28.2		0.500	"			"	94.0%	"	4.22%	6 "		
Ethylbenzene		"	28.8		0.500	"			"	96.0%		2.13%	6 "		
Xylenes (total)		"	87.3		1.00	"			90.0	97.0%		3.65%	6 "		
Surrogate(s):	4-BFB (PID)		Recovery:	98.0%	Li	mits: 68-140	% "							04/20/08 17:54	
Duplicate (8D2)	)005-DUP1)				QC Source	: BRD0203-	04RE1		Exti	racted:	04/20/08 1	2:20			
Benzene	,	EPA 8021B	ND		10.0	ug/l	20x	ND				NR	(25)	04/20/08 19:00	
Toluene		"	ND		10.0			ND				NR		"	
Ethylbenzene		"	ND		10.0	"		54.6				141%	ó "	"	R
Xylenes (total)		"	48.4		20.0	"		ND						"	
Surrogate(s):	4-BFB (PID)		Recovery:	99.8%	Li	mits: 68-1409	% 1x							04/20/08 19:00	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager



### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

306456 (328.5 Illinois) Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### BTEX by EPA Method 8021B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D20005 Water Preparation Method: EPA 5030B (P/T) Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) Notes RPD Result Amt REC Duplicate (8D20005-DUP2) QC Source: BRD0203-05RE1 Extracted: 04/20/08 12:20 EPA 8021B ND 10.0 ND (25)04/20/08 23.20 Benzene --ug/l 20x ---NR Toluene .. ND 10.0 ND NR ---.. 10.0 ., Ethylbenzene 15.6 ... 15.9 1.78% ---------.. 20.0 ... 3.74% ., Xvlenes (total) 66.2 68.7 -----------Surrogate(s): 4-BFB (PID) Recoverv: 102% Limits: 68-140% lx04/20/08 23:20 Matrix Spike (8D20005-MS2) QC Source: BRD0203-05RE1 Extracted: 04/20/08 12:20 EPA 8021B 667 10.0 111% 04/20/08 20:37 Benzene 20x ND 600 (46 - 130)--ug/l ----Toluene 642 10.0 ND 107% (60-124)-------.. Ethylbenzene 665 10.0 .. 15.9 108% (56-141) .. Xylenes (total) 2060 20.0 68.7 1800 110% (66-132) --------04/20/08 20:37 4-BFB (PID) Limits: 68-140% Surrogate(s): Recovery: 98.8% 1 QC Batch: 8D21031 Water Preparation Method: EPA 5030B (P/T) Source Spike % MDL\* Dil Method Result MRL Units (Limits) (Limits) Analyzed Analyte Notes RPD REC Result Amt (8D21031-BLK1) Extracted: 04/21/08 12:29 Blank EPA 8021B 04/21/08 12:55 Benzene ND 0.500 1x ug/l ---------ND 0.500 Toluene ----------------Ethylbenzene ND 0.500 ---------\_\_\_\_ .. Xylenes (total) ND 1.00 ---04/21/08 12:55 Surrogate(s): 4-BFB (PID) Recovery: 99.4% Limits: 68-140% " Extracted: 04/21/08 12:29 LCS (8D21031-BS2) Benzene EPA 8021B 30.2 ---0.500 ug/l 1x ---30.0 101% (80-120) 04/21/08 14:34 ---Toluene 297 0.500 ---98.9% --------Ethylbenzene 29.8 ----0.500 ---99 3% ------Xylenes (total) 91.8 ---1.00 ---90.0 102% \_\_\_ \_\_\_ Surrogate(s): 4-BFB (PID) Recovery: 98.8% Limits: 68-140% " 04/21/08 14:34 LCS Dup (8D21031-BSD2) Extracted: 04/21/08 12:29 EPA 8021B 28.8 0.500 96.1% (80-120) 4.66% (25) 04/21/08 15:07 Benzene ug/l 1x 30.0 .. ... ., Toluene 28.7 0.500 95.6% 3.41% ------.. 0.500 94 7% Ethylbenzene 28.4 ------4 72% ., Xylenes (total) 87.8 1.00 90.0 97.5% 4.53% ------4-BFB (PID) Recovery: Limits: 68-140% 04/21/08 15:07 Surrogate(s): 98.6% "

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SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### BTEX by EPA Method 8021B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D21031 Water Preparation Method: EPA 5030B (P/T) Source Spike 0/ % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) (Limits) Analyzed Notes REC Result Amt Duplicate (8D21031-DUP1) QC Source: BRD0280-02 Extracted: 04/21/08 12:29 EPA 8021B 04/21/08 16:21 Benzene ND 0.500 ND 9.30% (25) --ug/l 1x \_\_\_ ---\_\_\_ Toluene .. ND 0.500 ND NR ------.. ND 0.500 ND 27.9% ., R4 Ethylbenzene --------.. 1.00 ... 1.12 28.0% ., ... R4 Xvlenes (total) ND -----------" Surrogate(s): 4-BFB (PID) Recovery: 100% Limits: 68-140% 04/21/08 16:21 Duplicate (8D21031-DUP2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 EPA 8021B 0.751 04/22/08 01:14 Benzene 0.500 0.813 7.93% (25) 1x --ug/l -------" Toluene ND 0.500 ND 21.4% ------\_\_\_\_ ., ... Ethylbenzene 6.84 0.500 7.30 6.48% " ---.. 1.00 ... 6.43% " .. Xylenes (total) 24.6 26.2 -------------,, 04/22/08 01:14 4-BFB (PID) Recovery: 121% Limits: 68-140% Surrogate(s): QC Source: BRD0183-01RE1 Matrix Spike (8D21031-MS2) Extracted: 04/21/08 12:29 Benzene EPA 8021B 33 1 0.500 0.813 04/21/08 18:00 ----30.0 108% (46 - 130)--ug/l 1x ---Toluene 30.7 ---0.500 0.145 102% (60-124) ------" .. Ethylbenzene 38.4 ----0.500 7.30 104% (56-141) ------., ., .. .. Xylenes (total) 117 ----1.00 26.2 90.0 101% (66-132) ------04/21/08 18:00 Surrogate(s): 4-BFB (PID) 119% Limits: 68-140% " Recovery:

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D16048 Water Preparation Method: EPA 7470A REC (Limits) RPD Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Blank (8D16048-BLK1) Extracted: 04/16/08 16:44 EPA 7470A ND 0.000200 1x 04/17/08 14:57 ------------Mercury mg/l ---LCS (8D16048-BS1) Extracted: 04/16/08 16:44 Mercury EPA 7470A 0.00512 0.000200 1x 0.00500 102% (80-120) 04/17/08 14:59 mg/l -------------Extracted: 04/16/08 16:44 LCS Dup (8D16048-BSD1) Mercury EPA 7470A 0.00523 ----0.000200mg/l 1x ---0.00500 105% (80-120) 2.25% (20) 04/17/08 15:02 Duplicate (8D16048-DUP1) QC Source: BRD0203-01 Extracted: 04/16/08 16:44 EPA 7470A ND 0.000200 1x ND (20) 04/17/08 15:24 Mercury ---mg/l ---NR ------QC Source: BRD0203-01 Matrix Spike (8D16048-MS1) Extracted: 04/16/08 16:44 Mercury EPA 7470A 0.00508 0.000200 0.0000310 0.00500 101% (75-125) 04/17/08 15:04 --mg/l $1 \mathbf{x}$

QC Batch: 8D16050	Water P	reparation M	ethod: El	PA 3010A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D16050-BLK1)								Ext	acted:	04/16/08 16	:48			
Arsenic	EPA 6010B	ND		0.100	mg/l	1x						(	04/17/08 15:43	
Barium	"	ND		0.0500	"	"							"	
Cadmium	"	ND		0.00500	"	"							"	
Selenium	"	ND		0.150	"	"							"	
Chromium	"	ND		0.0100	"								"	
Lead	"	ND		0.0500	"								"	
Silver	"	ND		0.0100	"								"	
LCS (8D16050-BS1)								Exti	acted:	04/16/08 16	:48			
Silver	EPA 6010B	1.05		0.0100	mg/l	1x		1.00	105%	(79-122)		(	04/17/08 15:46	
Barium	"	5.30		0.0500	"	"		5.00	106%	(80-120)			"	
Arsenic	"	5.40		0.100	"			"	108%	"			"	
Chromium	"	5.08		0.0100	"			"	102%	"			"	
Cadmium	"	5.22		0.00500	"			"	104%				"	
Lead	"	5.22		0.0500	"			"	104%				"	
Selenium	"	5 40		0.150				"	108%				"	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling

Greg Montgomery

Report Created: 06/10/08 16:15

### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D16050	Water P	reparation Me	thod: E	PA 3010A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Duplicate (8D16050-DUP1)				QC Source:	BRD0203-01			Extr	acted:	04/16/08 16:	:48			
Chromium	EPA 6010B	ND		0.0100	mg/l	1x	ND				NR	(20)	04/17/08 15:53	
Barium	"	0.374		0.0500	"	"	0.381				1.83%	(25)		
Cadmium	"	0.00800		0.00500	"	"	0.00790				1.26%	(20)		
Lead	"	ND		0.0500	"	"	ND				2.97%	"		
Silver	"	ND		0.0100	"	"	ND				NR	(40)		
Selenium	"	ND		0.150	"	"	ND				11.4%	(20)		
Arsenic	"	ND		0.100	"	"	ND				8.54%	"		
Matrix Spike (8D16050-MS1)				QC Source:	BRD0203-01			Extr	acted:	04/16/08 16	:48			
Lead	EPA 6010B	5.11		0.0500	mg/l	1x	0.0308	5.00	102%	(80-120)			04/17/08 15:49	
Selenium	"	5.76		0.150			0.0139	"	115%				"	

Selenium		5.76	 0.150	"		0.0139	"	115%	"	 	
Arsenic	"	5.77	 0.100	"		0.0293	"	115%	"	 	"
Barium	"	5.86	 0.0500	"		0.381	"	110%	(60-136)	 	
Cadmium	"	5.49	 0.00500	"		0.00790	"	110%	(80-120)	 	
Silver	"	1.08	 0.0100	"		ND	1.00	108%	(78-125)	 	
Chromium	"	5.12	 0.0100	"	"	ND	5.00	102%	(80-120)	 	"

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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Number: Project Manager:

Project Name:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### EDB and DBCP by EPA Method 8011 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15016 Water Preparation Method: Solvent Extraction <sup>%</sup>∕ (Limits) REC Source Spike % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Blank (8D15016-BLK1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M ND 0.010 1x 04/15/08 19:54 --------ug/l ---LCS (8D15016-BS1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.053 0.010 1x 0.0500 105% (80-120) 04/15/08 20:18 ug/l ------------LCS (8D15016-BS4) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.051 0.010 ug/l 1x ---0.0500 102% (80-120) 04/17/08 18:51 ---LCS (8D15016-BS5) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.104 0.010 1x 0.100 104% 04/17/08 20:03 ---ug/l ---(80-120) ------LCS (8D15016-BS9) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.046 0.010 1x 0.0500 92.3% (80-120) 04/24/08 17:02 --ug/l Extracted: 04/15/08 09:10 LCS (8D15016-BSA) 1,2-Dibromoethane (EDB) EPA 8011M 0.100 83.5% 04/24/08 19:03 0.083 ---0.010 ug/l 1x---(80-120) --LCS Dup (8D15016-BSD1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.051 0.010 1x 0.0500 103% (80-120) 2.46% (20) 04/15/08 20:42 ------ug/l

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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15022 Water Preparation Method: EPA 5030B Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) Notes RPD REC Result Amt Blank (8D15022-BLK1) Extracted: 04/15/08 09:30 04/15/08 12:01 EPA 8260B Acetone ND ---20.0 ug/l 1x ------ND 1.00 Benzene ---.. ND 1.00 Bromobenzen --------.. ... ND 1.00 Bromochloromethane -----------------Bromodichloromethane ND 1.00 ---------Bromoform ND 1.00 Bromomethane ND 2.00 --2-Butanone ND 10.0-----\_\_\_\_ ------ND 1.00 n-Butylbenzene --sec-Butylbenzene ND 1.00 --tert-Butylbenzene ND 1.00 --------------Carbon disulfide ND 1.00 ------\_\_\_ ---------Carbon tetrachloride ND 1.00 \_\_\_ \_\_\_ ---Chlorobenzene ND 1.00 ---ND 1.00 Chloroethane ---\_\_\_\_ -----1-Chlorohexane ND 1.00 ---\_\_\_\_ Chloroform ND 1.00 ---Chloromethane ND 5.00 ------------------2-Chlorotoluene ND 1.00 ---------4-Chlorotoluene ND 1.00 ---Dibromochloromethane ND 1.00 ---1.2-Dibromo-3-chloropropane ND 5.00 \_\_\_\_ -----------1,2-Dibromoethane ND 1.00 ---Dibromomethane ND 1.00 1,2-Dichlorobenzene ND 1.00 --------------1,3-Dichlorobenzene ND ---1.00 ---------------1,4-Dichlorobenzene ND 1.00 ------Dichlorodifluoromethane ND 1.00 L 1.00 1,1-Dichloroethane ND -------------1,2-Dichloroethane ND 1.00 --\_\_\_ -----------1.1-Dichloroethene ND 1.00 cis-1.2-Dichloroethene ND 1.00 ---------------... trans-1.2-Dichloroethene ND ---1.00 ---------------1,2-Dichloropropane ND 1.00 \_\_\_\_ \_\_\_\_ ------1,3-Dichloropropane ND 1.00 2.2-Dichloropropane ND 1.00 ---\_\_\_ ------1,1-Dichloropropene ND 1.00 \_\_\_ ---\_\_\_ ---1.00 cis-1,3-Dichloropropene ND

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trans-1,3-Dichloropropene

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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15022 Water Preparation Method: EPA 5030B Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes (Limits) RPD REC Result Amt Blank (8D15022-BLK1) Extracted: 04/15/08 09:30 EPA 8260B 04/15/08 12:01 ND 1.00 Ethylbenzene --ug/l 1x ---\_ \_\_\_ ---Hexachlorobutadiene ND 5.00 ---.. ... Methyl tert-butyl ether ND 2.00 ---------.. ... ND n-Hexane 2.00 -----------------... 2-Hexanone ND 10.0 ------------.. Isopropylbenzene ND 1.00 p-Isopropyltoluene ND 1.00 ---------4-Methyl-2-pentanone ND 10.0----------------Methylene chloride ND 5.00 \_\_\_\_ -----Naphthalene ND 5.00 --n-Propylbenzene ND 1.00 -----------Styrene ND 1.00 ------------\_\_\_ ---1,2,3-Trichlorobenzene ND 5.00 \_\_\_ \_\_\_ \_\_\_ \_\_\_ --в 1,2,4-Trichlorobenzene ND 5.00 ---1112-Tetrachloroethane ND 1.00 -----------1,1,2,2-Tetrachloroethane ND 1.00 ------\_\_\_\_ ---ND 1.00 Tetrachloroethene ---------.. Toluene ND 1.00 \_\_\_\_ ---------------.. 1.1.1-Trichloroethane ND 1.00 ---------1,1,2-Trichloroethane ND 1.00 ------Trichloroethene ND 1.00 ---ND 1.00 Trichlorofluoromethane \_\_\_\_ --------------1,2,3-Trichloropropane ND 1.00 ---1,2,4-Trimethylbenzene ND 1.00 ---1,3,5-Trimethylbenzene 1.00 ND ---------------Vinyl chloride ND 1.00 ------------o-Xylene ND 1.00 \_\_\_ ---.. 2.00 m,p-Xylene ND .. .. ND ----3.00 ------------Total Xylenes ------1,2-DCA-d4 Limits: 70-130% ,, 04/15/08 12:01 Surrogate(s): Recovery: 95.4% Toluene-d8 98.4% 75-125% 4-BFB 99.4% 75-125%

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15022 Water Preparation Method: EPA 5030B Source Spike 0/ % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) (Limits) Analyzed Notes REC Result Amt LCS (8D15022-BS1) Extracted: 04/15/08 09:30 EPA 8260B 38.1 04/15/08 10:58 1.00 40.0 95.3% Benzene --ug/l 1x ---(80-120) ---Chlorobenzene .. 39.3 1.00 .. 98.2% ---.. 37.5 93.6% (75-125) ... 1,1-Dichloroethene 1.00 -----.. 87.0% ... Methyl tert-butyl ether 2.00 (75-126) 34.8 ---------.. (75-125) Toluene 38.4 1.00 95.9% ---.. Trichloroethene 38.2 1.00 95.5% .. .. 3.00 .. ... .. Total Xylenes 116 120 96.5% Surrogate(s): 1,2-DCA-d4 Recovery: 96.4% Limits: 70-130% 04/15/08 10:58 Toluene-d8 97.7% 75-125% " 100% 75-125% 4-BFB LCS Dup (8D15022-BSD1) Extracted: 04/15/08 09:30 EPA 8260B 38.2 04/15/08 11:25 1.00 95.4% 0.0787% (20) Benzene --ug/l 1x 40.0 (80-120) ---Chlorobenzene .. 40.2 1.00 .. 100% 2.27% .. .. ---.. 38.0 1.00 95.0% ... 1,1-Dichloroethene (75-125) 1.43% ------., ., ... 1.54% Methyl tert-butyl ether 2.00 (75-126) 35.4 -----88 4% " " Toluene 39.8 1.0099.6% (75-125) 3.73% --" 38.3 1.00 ., " Trichloroethene 95.7% .. 0.157% .. .. ... 118 3.00 ... 1.80% " ---120 98.3% Total Xylenes ---

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# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D17013	Water Preparation Method: EPA 3520C													
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D17013-BLK2)								Ext	racted:	04/17/08 09	):11			
Acenaphthene	EPA	ND		0.100	ug/l	1x							04/21/08 20:39	
Acenaphthylene	8270C-SIM "	ND		0.100	"	"								
Anthracene		ND		0.100	"									
Benzo (a) anthracene		ND		0.100	"	"								
Benzo (a) pyrene		ND		0.100	"	"								
Benzo (b) fluoranthene		ND		0.100	"	"								
Benzo (k) fluoranthene		ND		0.100	"	"								
Benzo (ghi) perylene		ND		0.100	"	"								
Chrysene		ND		0.100	"	"								
Dibenz (a.h) anthracene	"	ND		0.100	"									
Fluoranthene		ND		0.100	"	"								
Fluorene		ND		0 100										
Indeno (1 2 3-cd) pyrene		ND		0 100										
1-Methylnaphthalene	"	ND		0.100	"									
2-Methylnaphthalene	"	ND		0.100	"									
Naphthalene	"	ND		0.100	"									
Phenanthrene	"	ND		0.100	"									
Pyrene	"	ND		0.100	"									
Surrogate(s): p-Terphenyl-d14		Recovery:	101%	Lin	nits: 20-1319	% "							04/21/08 20:39	
LCS (8D17013-BS2)								Ext	racted:	04/17/08 09	2:11			
Acenaphthene	EPA 8270C-SIM	16.8		0.100	ug/l	1x		20.0	84.2%	(68-129)			04/21/08 21:11	
Acenaphthylene	"	17.1		0.100	"			"	85.5%	(77-129)			"	
Anthracene	"	17.7		0.100	"			"	88.7%	(80-146)			"	
Benzo (a) anthracene	"	16.8		0.100	"	"		"	83.9%	(73-120)				
Benzo (a) pyrene	"	18.8		0.100	"	"		"	94.1%	(70-132)			"	
Benzo (b) fluoranthene		18.2		0.100	"	"		"	91.1%	(68-148)				
Benzo (k) fluoranthene		19.1		0.100	"	"			95.6%	(63-150)				
Benzo (b & k) fluoranthene		37.5		0.200	"			40.0	93.8%	"				

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19.3

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19.8

17.7

14.6

15.3

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The results in this report apply to the samples analyzed in accordance with the chain

20.0 68.2% (46-142)

(80-132)

(56-138)

(79-138)

(42-120)

(53-136)

(41-120)

(43-122)

(38-128)

96.6%

77.2%

98.8%

88.5%

72.8%

76.4%

74.5%

71 7%

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

Benzo (ghi) perylene

Dibenz (a,h) anthracene

Indeno (1,2,3-cd) pyrene

1-Methylnaphthalene

2-Methylnaphthalene

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Chrysene

Fluorene

Fluoranthene

Naphthalene



0.100

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### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**306456 (328.5 Illinois)** Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

#### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D17013 Water Preparation Method: EPA 3520C Source Spike 0/ % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) (Limits) Analyzed Notes REC Result Amt LCS (8D17013-BS2) Extracted: 04/17/08 09:11 EPA 167 0.100 04/21/08 21.11 Phenanthrene 1x ---20.0 83.3% --ug/l (77 - 123)------8270C-SIM .. 0.100 17.6 88.1% Pyrene ---(60-150) ------Limits: 20-131% 04/21/08 21:11 Surrogate(s): p-Terphenyl-d14 Recovery: 92.4% LCS Dup (8D17013-BSD2) Extracted: 04/17/08 09:11 04/21/08 21:43 EPA 83.0% 1.44% (30) Acenaphthene 16.6 ---0.100 ug/l 1x ---20.0 (68-129) 8270C-SIM Acenaphthylene 16.7 0.100 --83.6% (77-129) 2.25% .. 17.4 0.100 " ... Anthracene 87.1% (80-146) 1.82% .. 0.100 .. Benzo (a) anthracene 16.4 --82.2% (73 - 120)2.05% Benzo (a) pyrene 184 0 100 --92.0% (70-132) 2.26% Benzo (b) fluoranthene 18.3 0.100 ---91.3% (68-148) 0.219% Benzo (k) fluoranthene 18.6 0.100 92.9% (63-150) 2.86% ---Benzo (ghi) perylene 13.4 0.100 67.0% (46-142)1.78% ------Chrysene 18.9 0.100 94.4% (80-132) 2.30% ---Dibenz (a,h) anthracene 15.2 0.100 ---76.0% (56-138) 1.57% " Fluoranthene 19.5 0.100 ---97.6% (79-138) 1.22% ---Fluorene 17.4 ---0.100 ---86.8% (42-120)1.94% Indeno (1,2,3-cd) pyrene 14.3 0.100 ---71.7% (53-136) 1.52% 1-Methylnaphthalene 14.8 0 100 ---74.1% (41-120) 3.06% 2-Methylnaphthalene 144 0 100 ---72.2% (43-122)3 14% ---Naphthalene 13.8 0 100 ---68.9% (38-128) 3.98% Phenanthrene " 16.5 0.100 .. ---82.3% (77 - 123)1.21% " ., .. .. " Pyrene 17.2 \_\_\_\_ 0.100 85.9% (60-150) 2.53% 04/21/08 21:43 Limits: 20-131% Surrogate(s): p-Terphenyl-d14 Recovery: 88.3%

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

#### 306456 (328.5 Illinois)

Chevron Alaska Sampling Greg Montgomery

Report Created: 06/10/08 16:15

#### **Notes and Definitions**

Report Sr	peci	fic Notes:
A-01	-	Sample overdiluted.
В	-	Analyte was detected in the associated Method Blank.
BQC	-	Reported for batch QC purposes only. See re-analysis (RE) for final result.
Е	-	Concentration exceeds the calibration range and therefore result is semi-quantitative.
L	-	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
Q1	-	Does not match typical pattern
Q11	-	Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
Q8	-	Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.
R3	-	The RPD exceeded the acceptance limit due to sample matrix effects.
R4	-	Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
RL1	-	Reporting limit raised due to sample matrix effects.
ZX	-	Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.
Laborator	ry R	eporting Conventions:
DET	-	Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
ND	-	Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
NR/NA	-	Not Reported / Not Available
dry	-	Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
wet	-	Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
RPD	-	RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
MRL	-	METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
MDL*	-	METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
Dil	-	Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
Reporting Limits	-	Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Alling C

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 34 of 34

#### TestAmerica Seattle

11720 North Creek Parkway N Suite 400 Bothell, WA 98011

## Chain of Custody Record

THE LEADER IN ENVIRONMENTAL TESTING

CO

**TestAmeri** 

phone 425.420.9200 fax 425.420.9210																					TestAmerica Laborato	ries, Inc.
Client Contact	Project M	anager: Gr	eg Montgor	nery		Sit	e Co	ontact	: Mil	ke Si	trick	ler		D	ate: /	April	14,	2008	-		COC No:	
Arcadis						La	b Co	ontac	t: Bla	ake N	Mein	ert		C	arrie	r: Fe	ed E	x			of COC	's
2300 Eastlake Ave East, Suite 200		Analysis T	urnaround	Time																	Job No.	
Seattle, WA 98102	Calendar	(C) or W	ork Days (W	)																		
206-726-4742	T/	AT if different	from Below										7470									
(xxx) xxx-xxxx FAX		2	weeks										9								SDG NO.	
Project Name: Facility # 0208		1	week						826			ĮΣ	Å									
Site: 328.5 Illinois			2 days			ę	Ξ	803	EPA	2	12	SIL	E E									
Project # Arcadis # 45506			1 day	r	-	ļ	KĮ	EPA	à		<b>K</b>	8270	l sla									
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered S	GRO by /	BTEX by	SIX VOCS FDR hy 8	DRO hv z	RRO by /	PAHs by	Total Me								BRDD203 Sample Specific	Notes:
GEI-2-W-080411	4/11/2008	1800		w	12		x	x y	x x	x	x	x	x								only one PAH sam	ple bottle-C
GEI-3-W-080411	4/11/2008	1715		w	5		x	x		x	x											-0Q
GEI-4-W-080411	4/11/2008	1900		w	5		x	x		x	x											-03
GEI-9-W-080411	4/11/2008	1935		w	5		x	x		x	x											-04
GEI-10-W-080412	4/12/2008	0940		w	5		x	x		x	x											-05
GEI-11-W-080412	4/12/2008	1415		w	7		x	x	x	x	x											-06
GEI-12-W-080412	4/12/2008	1150		w	13		x	x	x x	x	x	x	x									-07
MW-2-W-080412	4/12/2008	1535		w	5		x	x		x	x											-08
MW-4-W-080412	4/12/2008	1550		w	5		x	x		x	x											-09
MW-5-W-080412	4/12/2008	1500		w	5		x	x		x	x											-10
MW-6-W-080412	4/11/2008	1640		w	5		x	x		x	x											-11
K-5-W-080412	4/12/2008	1030		w	5		x	x		x	x											-12
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=Na	0H; 6= Oth	er					2	2	2	1 2	2 2	2 1	4									
Possible Hazard Identification							Sal	mple	Disp	0058	l ( A	fee	may L	be as	ses	sed	if se	impl	es al	re reta	ined longer than 1 mon	th)
Non-Hazard Flammable Skin Irritant	Poiso		Unknown					$\square_R$	eturn	То	Clier	nt	اعد		spos	al By	/ Lal	b	L	Arc	hive For Mo	nths
Special Instructions/QC Requirements & Comments: Total Meta dichloroethene, 1,1,1-trichloroethane, 1,2-dichloroethane, (1,2-DC	ıls = Arsenic CA)	, Barium, (	Cadmium, C	Chromiu	m, Lea	d, M	lerci	ury, S	Seleni	ium,	Silv	er		vo	DCs =	= Cau	rbor	a Teti	rachl	oride,	Tetrachloroethene, trichle	proethene, 1,1-
Relinquished by: Indraw I Wille	Company: Dat 04555 4/		Date/Ti 4/14/	me: 8/09	736		eived U	by: UU	U	Úl.	îМ	λ			Co 17	mpa	ny: Sa	#U		Date/Time: 04.15.08 /093	35	
Keunquisnea by:	Company:			Date	ne:		Kec	rived	oy:								шра	uy:				
Relinquished by:	Company:			Date/Ti	me:		Rec	eived	by:							Co	mpa	ny:			Date/Time:	
	1						<u>i</u>									_					D in Wild	<u></u>

#### **TestAmerica Seattle**

11720 North Creek Parkway N Suite 400 Bothell, WA 98011

## **Chain of Custody Record**

THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica** 

phone 425.420.9200 fax 425.420.9210																						TestAmerica Laboratories, Inc.
Client Contact	Project M	anager: Gr	eg Montgor	nery		Sit	e Co	ntaci	t: M	like S	Strie	ckle	r		D۶	te: A	pril	1 <b>4, 2</b>	008			COC No:
Arcadis						La	b Co	ntaci	t: B	lake	Mei	iner	rt		Ca	rrier	: Fea	l Ex				2 of COCs
2300 Eastlake Ave East, Suite 200		Analysis T	urnaround	Time																		Job No.
Seattle, WA 98102	Calendar	(C) or Wo	ork Days (W	)																		
206-726-4742	Τź	AT if different f	rom Below											410								<u></u>
(xxx) xxx-xxxx FAX		2	e weeks						m													SDG No.
Project Name: Facility # 0208	] 🗆	1	week						8260				Σ	9 V								
Site: 328.5 Illinois		:	2 days			e	_	802	PA				SIM	Y EF								
Project # Arcadis # 45506			l day	_		lduu	K10	EPA	by E	Ξ	3	2	23	a sa								
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered St	GRO by A	BTEX by	Six VOCs	EDB by 80	DRO by A	RRO by A	PAHs by 8	Total Met								BRDD-20-3 Sample Specific Notes:
DUP-1-W-080411	4/11/2008	800		w	5		x	x		,	x )	x										-13
QA-T-1-W-080411	4/11/2008	0600		w	2		x	x		,	x >	x										Trip Blank -14
						Ц					_			_				$\square$				<u> </u>
						L		_	$ \downarrow$	$ \rightarrow$	_	_	_								_	
																<u> </u>		_		$\downarrow$ $\downarrow$		
							Ц						$\square$					$ \rightarrow$	_	$\downarrow$		
							Ц	$\downarrow$		$ \rightarrow$	_				1			$\downarrow$		$\downarrow$		· · · · · · · · · · · · · · · · · · ·
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									$\square$	$\downarrow$										$\square$	_	
																		$\square$				
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=Na	OH; 6= Oth	er					2	2	2	1	2	2	1	4								
Possible Hazard Identification	Poiso		Unknown				San	nple ⊐ <sub>Re</sub>	Dis etur	<b>spos</b> т To	<b>ial (</b> cli	' A fi ient	iee n	nay b L	xe as ⊐ <sub>Dis</sub>	sess posa	i <b>ed il</b> I By	<b>i san</b> Lab	nples	are re	etai Arch	ned longer than 1 month) ive For Months
Special Instructions/QC Requirements & Comments: Total Meta dichloroethene, 1,1,,1-trichloroethane,	ls = Arsenic	, Barium, C	Cadmium, C	Thromiu	m, Lead	i, M	lercu	ıry, S	Selei	nium	n, Sil	ilver	•		VO	Cs =	Carl	bon T	Tetra	choride	e, T	etrachoroethene, trichloroethene, 1,1-
Relinquished by:	Company:	τ.		Date/Ti		21	Rece	eived	by:	1		0	<u>a</u>	P.			Con	ipany	y: C <i>o</i> i	;#L_	2	Date/Time: DA-15.08 10925
Relinquished by:	Company:	<u> </u>		Date/Ti	<u>x / 075</u> me:	v	Rece	<u>YU</u> eived	by:	<u>.</u> (	<u>n</u>	<u>u</u>	w	1/(			Соп	ipany	<u>у;</u> у:	1114		Date/Time:
Dellassisked hu	Comercia			Date (T)			Dar	ained	h								Carr					Date/Time:
Keunquisned Dy:	Company:			Date/ 11	nie:		Reck	cived	uy:									ipany	y.			Daw Fille.
				I						_							<u> </u>					<u> </u>



April 30, 2008

Greg Montgomery Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

RE: 1001430 (418 Illinois)

Enclosed are the results of analyses for samples received by the laboratory on 04/12/08 12:03. The following list is a summary of the Work Orders contained in this report, generated on 04/30/08 17:40.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BRD0183	1001430 (418 Illinois)	45512

TestAmerica Seattle

Blake Mains

Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

## Arcadis, Geraghty, & Miller - Seattle

Seattle, WA/USA 98102

2300 Eastlake Avenue East, Suite 100

Project Name: Project Number: Project Manager:

45512r: Greg Montgomery

1001430 (418 Illinois)

Report Created: 04/30/08 17:40

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TH-1-W-080408	BRD0183-01	Water	04/08/08 15:00	04/12/08 12:03
TH-2-W-080408	BRD0183-02	Water	04/08/08 16:35	04/12/08 12:03
TH-7-W-080408	BRD0183-03	Water	04/08/08 15:25	04/12/08 12:03
TH-10-W-080408	BRD0183-04	Water	04/08/08 14:30	04/12/08 12:03
TH-13-W-080410	BRD0183-05	Water	04/10/08 13:45	04/12/08 12:03
MW-23-080408	BRD0183-06	Water	04/08/08 15:45	04/12/08 12:03
MW-25-080410	BRD0183-07	Water	04/10/08 10:00	04/12/08 12:03
DUP-1-W-080408	BRD0183-08	Water	04/08/08 08:00	04/12/08 12:03
QT-1-W-080408	BRD0183-09	Water	04/08/08 06:00	04/12/08 12:03

TestAmerica Seattle

Blake Maint

Blake T. Meinert, Project Manager





SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager: **1001430 (418 Illinois)** 45512

Greg Montgomery

Report Created: 04/30/08 17:40

Analytical Case Narrative TestAmerica - Seattle, WA

BRD0183

CASE NARRATIVE:

SAMPLE RECEIPT

The samples were received 4/12/08 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 5.9 degrees Celsius.

#### PREPARATIONS AND ANALYSIS

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle

Blake Macing

Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

45512

1001430 (418 Illinois)

Greg Montgomery

Report Created: 04/30/08 17:40

	Gasoline Ra	nge Hydrocarbons ( TestAm	( <b>n-Hexan</b> nerica Seattl	e to <n- e</n- 	-Decane)	by AK101			
Analyte	Method	Result MDL* M	IRL Unit:	s Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-01RE1 (TH-1-W-080408)		Water		Sample	d: 04/08/08 1	5:00			
Gasoline Range Hydrocarbons	AK 101	<b>455</b> 50	.0 ug/l	1x	8D21031	04/21/08 12:29	04/22/08 00:41	KMT	Q8
Surrogate(s): 4-BFB (FID)		144%	6	0 - 120 %	"			" Z	X
BRD0183-02 (TH-2-W-080408)		Water		Sample	d: 04/08/08 1	6:35			
Gasoline Range Hydrocarbons	AK 101	<b>47100</b> 500	00 ug/l	100x	8D17046	04/17/08 15:51	04/18/08 07:55	KMT	
Surrogate(s): 4-BFB (FID)		96.6%	64	0 - 120 %	lx			"	
BRD0183-03RE1 (TH-7-W-080408)		Water		Sample	d: 04/08/08 1	5:25			
Gasoline Range Hydrocarbons	AK 101	<b>82.2</b> 50	.0 ug/l	1x	8D21031	04/21/08 12:29	04/22/08 01:46	KMT	
Surrogate(s): 4-BFB (FID)		88.8%	6	0 - 120 %	"			"	
BRD0183-04 (TH-10-W-080408)		Water		Sample	d: 04/08/08 1	4:30			
Gasoline Range Hydrocarbons	AK 101	ND 5	0.0 ug/l	1x	8D17046	04/17/08 15:51	04/17/08 17:16	KMT	
Surrogate(s): 4-BFB (FID)		89.4%	6	0 - 120 %	"			"	
BRD0183-05 (TH-13-W-080410)		Water		Sample	d: 04/10/08 1	3:45			
Gasoline Range Hydrocarbons	AK 101	<b>548</b> 50	.0 ug/l	1x	8D17046	04/17/08 15:51	04/17/08 18:21	KMT	
Surrogate(s): 4-BFB (FID)		96.6%	6	0 - 120 %	"			"	
BRD0183-06 (MW-23-080408)		Water		Sample	d: 04/08/08 1	5:45			
Gasoline Range Hydrocarbons	AK 101	ND 5	0.0 ug/l	1x	8D17046	04/17/08 15:51	04/17/08 22:42	KMT	
Surrogate(s): 4-BFB (FID)		90.0%	6	0 - 120 %	"			"	
BRD0183-07RE1 (MW-25-080410)		Water		Sample	d: 04/10/08 1	0:00			
Gasoline Range Hydrocarbons	AK 101	<b>1840</b> 50	.0 ug/l	1x	8D21031	04/21/08 12:29	04/22/08 03:56	KMT	
Surrogate(s): 4-BFB (FID)		143%	6	0 - 120 %	"			" Z	X
BRD0183-08 (DUP-1-W-080408)		Water		Sample	d: 04/08/08 0	8:00			
Gasoline Range Hydrocarbons	AK 101	ND 5	0.0 ug/l	1x	8D17046	04/17/08 15:51	04/17/08 23:15	KMT	
Surrogate(s): 4-BFB (FID)		88.0%	6	0 - 120 %	"			"	

TestAmerica Seattle

Blake Maint

Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager: **1001430 (418 Illinois)** 45512 Greg Montgomery

Report Created: 04/30/08 17:40

#### Gasoline Range Hydrocarbons (n-Hexane to <n-Decane) by AK101 TestAmerica Seattle Dil Analyte Method Result MDL\* MRL Units Batch Prepared Analyzed Analyst Notes Water Sampled: 04/08/08 06:00 BRD0183-09 (QT-1-W-080408) KMT AK 101 04/17/08 15:51 04/17/08 21:37 Gasoline Range Hydrocarbons ND -----50.0 ug/l $1 \, \mathrm{x}$ 8D17046 " " Surrogate(s): 4-BFB (FID) 88.9% 60 - 120 %

TestAmerica Seattle

Blake Macunt

Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Number: Project Manager:

Project Name:

1001430 (418 Illinois)

Report Created: 04/30/08 17:40

#### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 TestAmerica Seattle

45512

Greg Montgomery

Analyte	Method	Result MDL*	MRL Units	Dil Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-01 (TH-1-	-W-080408)	Water	S	ampled: 04/08/08	15:00			
Diesel Range Hydrocarbon Residual Range Organics	ns AK102_103	5.57 0. ND	.100 mg/l 0.750 "	1x 8D14014 " "	04/14/08 09:27	04/15/08 23:49	EKK EKK	
Surrogate(s): 2-FBI Octac	o osane	96.9% 92.3%	50 - 13 50 - 13	50 % " 50 % "			""	
BRD0183-02RE2 (TH	I-2-W-080408)	Water	S	ampled: 04/08/08	16:35			
Diesel Range Hydrocarbo	ns AK102_103	<b>58.7</b> 0.	.510 mg/l	5x 8D14014	04/14/08 09:27	04/17/08 15:45	ЕКК	
Surrogate(s): 2-FBI Octac	o osane	155% 97.4%	50 - 1: 50 - 1:	50 % " 50 % "			" ZX	
BRD0183-02RE4 (TH	I-2-W-080408)	Water	S	ampled: 04/08/08	16:35			
Residual Range Organics	AK102_103	<b>30.2</b> 7	7.65 mg/l	10x 8D14014	04/14/08 09:27	04/21/08 11:48	EKK	
Surrogate(s): 2-FBI Octac	osane	156% 103%	50 - 1: 50 - 1:	50 % " 50 % "			" ZX	
BRD0183-03 (TH-7-	-W-080408)	Water	S	ampled: 04/08/08	15:25			
Diesel Range Hydrocarbon Residual Range Organics	ns AK102_103	<b>0.932</b> 0. ND	.100 mg/l 0.750 "	1x 8D14014 " "	04/14/08 09:27	04/16/08 00:40	ЕКК ЕКК	
Surrogate(s): 2-FBI Octac	o osane	83.8% 91.7%	50 - 1: 50 - 1:	50 % " 50 % "			"	
BRD0183-04 (TH-1)	0-W-080408)	Water	S	ampled: 04/08/08	14:30			
Diesel Range Hydrocarbon Residual Range Organics	ns AK102_103	<b>0.214</b> 0.0	0990 mg/l 0.743 "	lx 8D14014 " "	04/14/08 09:27	04/16/08 01:07	ЕКК ЕКК	Q6
Surrogate(s): 2-FBI Octac	o osane	81.6% 90.8%	50 - 1. 50 - 1.	50 % " 50 % "			"	
BRD0183-05 (TH-1.	3-W-080410)	Water	S	ampled: 04/10/08	13:45			
Diesel Range Hydrocarbon Residual Range Organics	ns AK102_103	<b>5.36</b> 0.0	0980 mg/l 0.735 "	1x 8D14014 " "	04/14/08 09:27	04/16/08 01:32	ЕКК ЕКК	
Surrogate(s): 2-FBI	o osane	95.1% 93.6%	50 - 1: 50 - 1:	50 % " 50 % "			"	

TestAmerica Seattle

Blake Mains

Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

ber: 45512

Greg Montgomery

1001430 (418 Illinois)

Report Created: 04/30/08 17:40

#### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 TestAmerica Seattle

		10		. Seattle						
Analyte	Method	Result MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-06 (MW-23-080408)		Water		S	Sample	d: 04/08/08 1	5:45			
Diesel Range Hydrocarbons	AK102_103	1.54	0.101	mg/l	1x	8D14014	04/14/08 09:27	04/16/08 01:58	EKK	
Residual Range Organics		ND	0.758	"	"	"	"	"	EKK	
Surrogate(s): 2-FBP		82.1%	6	50 - 1	150 %	"			"	
Octacosane		90.9%	6	50 - 1	!50 %	"			"	
BRD0183-07 (MW-25-080410)		Water		5	Sample	d: 04/10/08 1	0:00			
Diesel Range Hydrocarbons	AK102_103	3.62	0.0962	mg/l	1x	8D14014	04/14/08 09:27	04/16/08 02:24	EKK	
Residual Range Organics	"	ND	0.721	"	"	"	"	"	EKK	
Surrogate(s): 2-FBP		94.7%	6	50 - 1	150 %	"			"	
Octacosane		93.9%	6	50 - 1	150 %	"			"	
BRD0183-08 (DUP-1-W-080408)		Water		S	Sample	d: 04/08/08 0	8:00			
Diesel Range Hydrocarbons	AK102_103	0.182	0.0980	mg/l	1x	8D14014	04/14/08 09:27	04/16/08 04:07	EKK	Q6
Residual Range Organics	"	ND	0.735	"	"	"	"	"	EKK	
Surrogate(s): 2-FBP		85.9%	6	50 - 1	150 %	"			"	
Octacosane		88.79	6	50 - 1	150 %	"			"	

TestAmerica Seattle

Blake Macunt

Blake T. Meinert, Project Manager





Arcadis, Geraghty, & Miller - Seattle	
2300 Eastlake Avenue East, Suite 100	

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

 1001430 (418 Illinois)

 ber:
 45512

Greg Montgomery

Report Created: 04/30/08 17:40

	TestAmerica Seattle													
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes			
BRD0183-01RE1 (TH-1-W-080408)	)	Water Samj						ampled: 04/08/08 15:00						
Benzene	EPA 8021B	0.813		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 00:41	KMT				
Toluene	"	ND		0.500	"	"	"		"	KMT				
Ethylbenzene	"	7.30		0.500	"	"	"			KMT				
Xylenes (total)	"	26.2		1.00	"	"	"	"	"	KMT				
Surrogate(s): 4-BFB (PID)			121%		68 -	140 %	"			"				
BRD0183-02 (TH-2-W-080408)		N	Vater			Sampleo	d: 04/08/08 1	6:35						
Benzene	EPA 8021B	652		50.0	ug/l	100x	8D17046	04/17/08 15:51	04/18/08 07:55	KMT				
Toluene	"	1650		50.0	"	"	"			KMT				
Ethylbenzene	"	1280		50.0	"	"	"		"	KMT				
Xylenes (total)	"	8580		100	"	"	"	"	"	KMT				
Surrogate(s): 4-BFB (PID)			109%		68 -	140 %	lx			"				
BRD0183-03RE1 (TH-7-W-080408)	)	١	Vater			Sampleo	d: 04/08/08 1	5:25						
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 01:46	KMT				
Toluene		ND		0.500	"	"	"		"	KMT				
Ethylbenzene	"	ND		0.500	"	"	"		"	KMT				
Xylenes (total)	"	1.50		1.00	"	"	"	"	"	KMT				
Surrogate(s): 4-BFB (PID)			100%		68 -	140 %	"			"				
BRD0183-04 (TH-10-W-080408)		١	Vater			Sampleo	d: 04/08/08 1	4:30						
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 17:16	KMT				
Toluene	"	ND		0.500	"	"	"		"	KMT				
Ethylbenzene	"	ND		0.500	"	"	"		"	KMT				
Xylenes (total)	"	ND		1.00	"	"	"	"	"	KMT				
Surrogate(s): 4-BFB (PID)			100%		68 -	140 %	"			"				
BRD0183-05 (TH-13-W-080410)		v	Vater			Sampleo	d: 04/10/08 1	3:45						
Benzene	EPA 8021B	89.0		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 18:21	KMT				
Toluene	"	1.26		0.500	"	"	"	"	"	KMT				
Ethylbenzene	"	4.56		0.500	"	"	"	"	"	KMT				
Xylenes (total)	"	22.3		1.00	"	"	"	"	"	KMT				
Surrogate(s): 4-BFB (PID)			102%		68 -	140 %	"			"				

TestAmerica Seattle

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Arcadis, Geraghty, & Miller - Seattle	
2300 Eastlake Avenue East, Suite 100	

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

ne: **1001430 (418 Illinois)** nber: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

		BT	EX by Tes	EPA N stAmerica	Iethod Seattle	8021E	8				
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-06 (MW-23-080408)		١	Water		;	Sample	d: 04/08/08 1	5:45			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 22:42	KMT	
Toluene	"	ND		0.500		"		"	"	KMT	
Ethylbenzene	"	ND		0.500		"			"	KMT	
Xylenes (total)	"	ND		1.00	"		"	"	"	KMT	
Surrogate(s): 4-BFB (PID)			103%	6	68	140 %	"			"	
BRD0183-07RE1 (MW-25-080410	)	v	Water		:	Sample	d: 04/10/08 1	0:00			
Benzene	EPA 8021B	11.3		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 03:56	KMT	
Toluene	"	3.50		0.500		"				KMT	
Ethylbenzene	"	36.8		0.500	"	"			"	KMT	
Xylenes (total)	"	142		1.00		"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)			122%	6	68	140 %	"			"	
BRD0183-08 (DUP-1-W-080408)	)	v	Water		:	Sample	d: 04/08/08 (	8:00			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 23:15	KMT	
Toluene	"	ND		0.500		"			"	KMT	
Ethylbenzene	"	ND		0.500		"			"	KMT	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)			100%	ó	68	140 %	"			"	
BRD0183-09 (QT-1-W-080408)		v	Water		:	Sample	d: 04/08/08 (	6:00			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 21:37	KMT	
Toluene	"	ND		0.500		"		"	"	KMT	
Ethylbenzene	"	ND		0.500	"	"			"	KMT	
Xylenes (total)		ND		1.00	"	"	"	"	"	KMT	
Surrogate(s): 4-BFB (PID)			101%	6	68	140 %	"			"	

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2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### Total Metals by EPA 6000/7000 Series Methods TestAmerica Seattle

													_
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes	
BRD0183-05	(TH-13-W-080410)		١	Vater		S	ampled:	04/10/08 13	:45				
Arsenic		EPA 6010B	ND		0.100	mg/l	1x	8D14042	04/14/08 15:31	04/15/08 15:51	WAS		
Barium		"	0.252		0.0500			"		"	WAS		
Cadmium		"	ND		0.00500	"		"			WAS		
Chromium		"	ND		0.0100	"	"	"	"	"	WAS		
Lead		"	0.0599		0.0500			"		"	WAS		
Mercury		EPA 7470A	ND		0.000200			8D15026	04/15/08 10:25	04/15/08 14:35	WAS		
Selenium		EPA 6010B	ND		0.150		"	8D14042	04/14/08 15:31	04/15/08 15:51	WAS		
Silver		"	ND		0.0100		"		"	"	WAS		

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Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

			EDB ar	nd DBC	C <b>P by E</b> tAmerica	PA Me Seattle	thod 8	8011				
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-05	(TH-13-W-080410)		,	Water			Sampled	l: 04/10/08 1	3:45			
1.2-Dibromoethar	ne (EDB)	EPA 8011M	ND		0.010	ug/l	1x	8D15016	04/15/08 09:10	04/15/08 23:31	gma	

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### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

**1001430 (418 Illinois)** r: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### Volatile Organic Compounds by EPA Method 8260B TestAmerica Seattle

Analyte	Method	Result MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0183-05 (TH-13	3-W-080410)	Water		5	Sampled	: 04/10/08 1	3:45			
Carbon tetrachloride	EPA 8260B	ND	1.00	ug/l	1x	8D15034	04/15/08 08:33	04/15/08 15:17	KPS	С
1,2-Dibromoethane	"	ND	1.00		"	"		"	KPS	
1,1-Dichloroethane	"	ND	1.00	"		"	"	"	KPS	
1,2-Dichloroethane	"	ND	1.00		"	"		"	KPS	
Tetrachloroethene	"	ND	1.00	"	"	"	"	"	KPS	
1,1,1-Trichloroethane	"	ND	1.00	"	"	"	"	"	KPS	
Trichloroethene	"	ND	1.00		"	"	"	"	KPS	
Surrogate(s): 1,2-De	CA-d4	107%		70 - 1	30 %	"			"	
Toluer	ne-d8	94.8%		75 - 1	25 %	"			"	
4-BFB	3	101%		75 - 1	25 %	"			"	

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Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512 Greg Montgomery

Report Created:

04/30/08 17:40

#### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM TestAmerica Seattle Analyte Method Result MDL\* MRL Units Dil Batch Prepared Analyzed Analyst Notes Sampled: 04/10/08 13:45 (TH-13-W-080410) BRD0183-05 Water 04/15/08 09:04 BAT Acenaphthene EPA 8270C-SIM 0.505 0.0971 ug/l 1x8D15014 04/21/08 19:36 .. BAT .. 0.0971 .. ... Acenaphthylene 0.466 -----.. BAT Anthracene ND -----0.0971 .. ... .. ., BAT Benzo (a) anthracene ND 0.0971 ... -----BAT 0.0971 ND Benzo (a) pyrene Benzo (b) fluoranthene ND 0.0971 BAT -----BAT 0.0971 Benzo (k) fluoranthene ND -----0.0971 .. BAT ND Benzo (ghi) perylene -----ND -----0.0971 .. BAT Chrysene BAT Dibenz (a,h) anthracene ND 0.0971 -----.. BAT 0.0971 Fluoranthene ND -----BAT Fluorene 0.0971 .. ND -----0.0971 BAT Indeno (1,2,3-cd) pyrene ND -----BAT 1-Methylnaphthalene ND -----0.0971 2-Methylnaphthalene 0.0971 .. BAT ND -----BAT 0.0971 .. Naphthalene ND -----0.0971 .. BAT Phenanthrene ND -----BAT ND 0.0971 Pyrene -----,,

Surrogate(s): p-Terphenyl-d14

70.3%

20 - 131 %

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Arcadis, Geraghty, & Miller - Seattle	Project Name:	1001430 (418 Illinois)	
2300 Eastlake Avenue East, Suite 100	Project Number:	45512	Report Created:
Seattle, WA/USA 98102	Project Manager:	Greg Montgomery	04/30/08 17:40
Gasoline Range Hydrocarbons	s (n-Hexane to <n-decane) by<="" th=""><th>y AK101 - Laboratory Quality</th><th>Control Results</th></n-decane)>	y AK101 - Laboratory Quality	Control Results
	TestAmerica Seatt	le	
QC Batch: 8D17046 Water Preparatio	on Method: EPA 5030B (P/T)		

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	REC	(Limits)	% RPD	(Limits	i) Analyzed	Notes
Blank (8D17046-BLK1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1 <b>x</b>							04/17/08 14:19	
Surrogate(s): 4-BFB (FID)		Recovery:	88.8%	Lin	nits: 60-120%	"							04/17/08 14:19	
LCS (8D17046-BS1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	957		50.0	ug/l	1x		1000	95.7%	(60-120)			04/17/08 14:52	
Surrogate(s): 4-BFB (FID)		Recovery:	95.5%	Lin	nits: 60-120%	"							04/17/08 14:52	
LCS Dup (8D17046-BSD1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	899		50.0	ug/l	1x		1000	89.9%	(60-120)	6.30%	(20)	04/17/08 15:25	
Surrogate(s): 4-BFB (FID)		Recovery:	94.9%	Lin	nits: 60-120%	"							04/17/08 15:25	
Duplicate (8D17046-DUP1)				QC Source:	BRD0183-04	Ļ		Ext	racted:	04/17/08 15	5:51			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	ND				NR	(20)	04/17/08 17:48	
Surrogate(s): 4-BFB (FID)		Recovery:	84.2%	Lin	nits: 60-120%	"							04/17/08 17:48	
Duplicate (8D17046-DUP2)				QC Source:	BRD0183-05	;		Ext	racted:	04/17/08 15	5:51			
Gasoline Range Hydrocarbons	AK 101	558		50.0	ug/l	1x	548				1.78%	(20)	04/17/08 18:54	
Surrogate(s): 4-BFB (FID)		Recovery:	97.0%	Lin	nits: 60-120%	"							04/17/08 18:54	
Matrix Spike (8D17046-MS1)				QC Source:	BRD0183-04	L		Ext	racted:	04/17/08 15	5:51			
Gasoline Range Hydrocarbons	AK 101	1110		50.0	ug/l	1x	ND	1000	111%	(60-120)			04/17/08 19:26	
Surrogate(s): 4-BFB (FID)		Recovery:	94.5%	Lin	nits: 60-120%	"							04/17/08 19:26	

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Blake T. Meinert, Project Manager





Arcadis, Geraghty, & Miller	- Seattle			Project Name:	10	01430	) (418 Ill	inois)						
2300 Eastlake Avenue East, Sui	te 100			Project Number	r: 45	512							Report Create	d:
Seattle, WA/USA 98102				Project Manage	er: Gr	eg Mo	ontgomery						04/30/08 17:	40
Gasoline	e Range Hyd	rocarbons	(n-Hexane	to <n-decan< td=""><td>e) by Ak</td><td>K101</td><td>- Labor</td><td>atory</td><td>Qualit</td><td>ty Contr</td><td>ol Res</td><td>sults</td><td></td><td></td></n-decan<>	e) by Ak	K101	- Labor	atory	Qualit	ty Contr	ol Res	sults		
				TestAmerica S	Seattle									
QC Batch: 8D21031	Water	Preparation	Method:	EPA 5030B (P/	/T)									
Analyte	Method	Result	MDL*	MRL U	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limit	s) Analyzed	Notes
Blank (8D21031-BLK1)								Ext	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	ND		50.0 u	ug/l	1x							04/21/08 12:55	
Surrogate(s): 4-BFB (FID)		Recovery:	87.7%	Limits:	60-120%	"							04/21/08 12:55	
LCS (8D21031-BS1)								Ext	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	980		50.0 u	ug/l	1x		1000	98.0%	(60-120)			04/21/08 13:28	
Surrogate(s): 4-BFB (FID)		Recovery:	94.5%	Limits:	60-120%	"							04/21/08 13:28	
LCS Dup (8D21031-BSD1)								Ext	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	1000		50.0 u	ug/l	1x		1000	100%	(60-120)	2.26%	(20)	04/21/08 14:01	
Surrogate(s): 4-BFB (FID)		Recovery:	94.9%	Limits:	60-120%	"							04/21/08 14:01	
Duplicate (8D21031-DUP1)				QC Source: Bl	RD0280-02			Ext	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	ND		50.0 u	ıg/l	1x	ND				NR	(20)	04/21/08 16:21	
Surrogate(s): 4-BFB (FID)		Recovery:	89.6%	Limits:	60-120%	"							04/21/08 16:21	

Duplicate (8D21031-DUP2)				QC Source:	BRD0183	-01RE1		Extr	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	442		50.0	ug/l	1x	455				2.81%	(20)	04/22/08 01:14	
Surrogate(s): 4-BFB (FID)		Recovery: 1-	46%	Lin	nits: 60-120	)% "							04/22/08 01:14	Zλ
Matrix Spike (8D21031-MS1)				QC Source:	BRD0280	-02		Extr	acted:	04/21/08 12	:29			
Gasoline Range Hydrocarbons	AK 101	1170		50.0	ug/l	1x	ND	1000	117%	(60-120)			04/21/08 16:54	
Surrogate(s): 4-BFB (FID)		Recovery: 95	5.8%	Lin	nits: 60-120	)% "							04/21/08 16:54	
Matrix Spike Dup (8D21031-MS	5D1)			QC Source:	BRD0280	-02		Extr	acted:	04/21/08 12	:29			

 Gasoline Range Hydrocarbons
 AK 101
 1140
 -- 50.0
 ug/l
 1x
 ND
 1000
 114%
 (60-120)
 2.23%
 (20)
 04/21/08 17:27

 Surrogate(s):
 4-BFB (FID)
 Recovery:
 96.5%
 Limits:
 60-120%
 "
 04/21/08 17:27

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Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512 Greg Montgomery

Report Created: 04/30/08 17:40

#### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D14014	Water l	Preparation	n Method: E	EPA 3520C	Ç									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	) Analyzed	Notes
Blank (8D14014-BLK1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	ND		0.100	mg/l	1x							04/15/08 22:32	
Residual Range Organics	"	ND		0.750	"	"								
Surrogate(s): 2-FBP Octacosane		Recovery:	70.4% 76.9%	Lii	mits: 50-150% 50-150%	"							04/15/08 22:32 "	
LCS (8D14014-BS1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	1.75		0.100	mg/l	1x		2.00	87.4%	(75-125)			04/15/08 22:57	
Residual Range Organics	"	1.59		0.750	"	"			79.5%	(60-120)				
Surrogate(s): 2-FBP Octacosane		Recovery:	86.5% 83.1%	Liı	mits: 50-150% 50-150%	"							04/15/08 22:57 "	
LCS Dup (8D14014-BSD1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	1.81		0.100	mg/l	1x		2.00	90.3%	(75-125)	3.25%	6 (20)	04/15/08 23:23	
Residual Range Organics	"	1.66		0.750	"				82.9%	(60-120)	4.20%	ó "	"	
Surrogate(s): 2-FBP Octacosane		Recovery:	86.0% 86.0%	Lii	nits: 50-150% 50-150%	"							04/15/08 23:23 "	

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Blake T. Meinert, Project Manager





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2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

	B	FEX by EI	PA Method	8021B - I TestAmeri	L <b>aborat</b> ca Seattle	ory Qua	lity Con	trol Re	esults					
QC Batch: 8D17046	Water 1	Preparation	n Method:	EPA 5030B	(P/T)									
Analyte	Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8D17046-BLK1)								Extr	acted:	04/17/08 13	:00			
Benzene	EPA 8021B	ND		0.500	ug/l	1x							04/17/08 14:19	
Toluene	"	ND		0.500	"									
Ethylbenzene	"	ND		0.500	"									
Xylenes (total)	"	ND		1.00	"									
Surrogate(s): 4-BFB (PID)		Recovery:	98.6%	Lin	nits: 68-140	0% "							04/17/08 14:19	
LCS (8D17046-BS2)								Extr	acted:	04/17/08 13	:00			
Benzene	EPA 8021B	29.7		0.500	ug/l	1x		30.0	99.1%	(80-120)			04/17/08 15:57	
Toluene	"	29.3		0.500	"	"		"	97.6%					
Ethylbenzene	"	29.2		0.500	"			"	97.3%					
Xylenes (total)	"	90.1		1.00	"			90.0	100%					
Surrogate(s): 4-BFB (PID)		Recovery:	99.1%	Lin	nits: 68-140	0% "							04/17/08 15:57	
LCS Dup (8D17046-BSD2)								Extr	acted:	04/17/08 13	:00			
Benzene	EPA 8021B	28.5		0.500	ug/l	1x		30.0	95.1%	(80-120)	4.08%	6 (25)	04/17/08 16:30	
Toluene	"	28.0		0.500	"	"		"	93.3%		4.51%	6 "		
Ethylbenzene	"	27.8		0.500	"	"		"	92.6%		4.92%	6 "		
Xylenes (total)	"	86.2		1.00	"			90.0	95.8%		4.40%	6 "		
Surrogate(s): 4-BFB (PID)		Recovery:	99.2%	Lin	nits: 68-140	0% "							04/17/08 16:30	
Duplicate (8D17046-DUP1)				QC Source:	BRD0183	-04		Extr	acted:	04/17/08 15	5:51			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	ND				NR	(25)	04/17/08 17:48	
Toluene	"	ND		0.500	"	"	ND				NR	"		
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"		
Xylenes (total)	"	ND		1.00	"		ND				NR	"		
Surrogate(s): 4-BFB (PID)		Recovery:	101%	Lin	nits: 68-140	0% "							04/17/08 17:48	
Duplicate (8D17046-DUP2)				QC Source:	BRD0183	-05		Extr	acted:	04/17/08 15	5:51			
Benzene	EPA 8021B	89.0		0.500	ug/l	1x	89.0				0.0090	00 (25)	04/17/08 18:54	
Toluene	"	1.24		0.500	"		1.26				1.04%	6 "		
Ethylbenzene	"	4.57		0.500	"		4.56				0.329	% "	"	
Xylenes (total)	"	21.9		1.00			22.3				1.94%	6 "	"	
Surrogate(s): 4-BFB (PID)		Recovery:	102%	Lin	nits: 68-140	0% "							04/17/08 18:54	

TestAmerica Seattle

Blake Macunt

Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

er: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

		B	FEX by El	PA Method	8021B -	Laborato	ry Qua	ality Con	trol R	esults					
					TestAmer	ica Seattle	-								
QC Batch	: 8D17046	Water	Preparation	n Method:	EPA 5030E	B (P/T)									
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (	8D17046-MS2)				QC Source	: BRD0183-(	)5		Ext	racted:	04/17/08 1	5:51			
Benzene		EPA 8021B	124		0.500	ug/l	1x	89.0	30.0	116%	(46-130)			04/18/08 02:30	M3
Toluene			32.3		0.500			1.26	"	103%	(60-124)				
Ethylbenzene			36.4		0.500		"	4.56	"	106%	(56-141)				
Xylenes (total)			122		1.00		"	22.3	90.0	110%	(66-132)				
Surrogate(s):	4-BFB (PID)		Recovery:	104%	Li	mits: 68-140%	ó "							04/18/08 02:30	
QC Batch	: 8D21031	Water 1	Preparation	n Method:	EPA 5030E	<b>B</b> (P/T)									
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D2103	31-BLK1)								Ext	racted:	04/21/08 1	2:29			
Benzene		EPA 8021B	ND		0.500	ug/l	1x							04/21/08 12:55	
Toluene		"	ND		0.500		"								
Ethylbenzene		"	ND		0.500		"								
Xylenes (total)			ND		1.00		"								
Surrogate(s):	4-BFB (PID)		Recovery:	99.4%	Li	mits: 68-140%	ó "							04/21/08 12:55	
LCS (8D21031	-BS2)								Ext	racted:	04/21/08 1	2:29			
Benzene		EPA 8021B	30.2		0.500	ug/l	1x		30.0	101%	(80-120)			04/21/08 14:34	
Toluene			29.7		0.500				"	98.9%					
Ethylbenzene			29.8		0.500				"	99.3%					
Xylenes (total)		"	91.8		1.00				90.0	102%				"	
Surrogate(s):	4-BFB (PID)		Recovery:	98.8%	Li	mits: 68-140%	ó "							04/21/08 14:34	
LCS Dup (8D2	21031-BSD2)								Ext	racted:	04/21/08 1	2:29			
Benzene		EPA 8021B	28.8		0.500	ug/l	1x		30.0	96.1%	(80-120)	4.66%	6 (25)	04/21/08 15:07	
Toluene		"	28.7		0.500		"		"	95.6%		3.41%	6 "	"	
Ethylbenzene			28.4		0.500				"	94.7%		4.72%	6 "		
Xylenes (total)			87.8		1.00				90.0	97.5%		4.53%	6 "		
Surrogate(s):	4-BFB (PID)		Recovery:	98.6%	Li	mits: 68-140%	ó "							04/21/08 15:07	
Duplicate (8D2	21031-DUP1)				QC Source	: BRD0280-0	02		Ext	racted:	04/21/08 1	2:29			
Benzene		EPA 8021B	ND		0.500	ug/l	1x	ND				9.30%	6 (25)	04/21/08 16:21	
Toluene			ND		0.500			ND				NR		"	
Ethylbenzene			ND		0.500			ND				27.9%	6 "	"	R4
Xylenes (total)			ND		1.00			1.12				28.0%	6 "	"	R4
Surrogate(s):	4-BFB (PID)		Recovery:	100%	Li	mits: 68-140%	6 "							04/21/08 16:21	

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Blake T. Meinert, Project Manager

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## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

1001430 (418 Illinois) her: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### BTEX by EPA Method 8021B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D21031 Water Preparation Method: EPA 5030B (P/T) <sup>%</sup> (Limits) Source Spike % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Duplicate (8D21031-DUP2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 EPA 8021B 0 751 04/22/08 01:14 Benzene 0.500 0.813 7.93% (25) --ug/l 1x \_\_\_ ------Toluene .. ND 0.500 ND 21.4% .. ------.. 6.84 0.500 ... 7.30 6.48% ., Ethylbenzene -----------.. 1.00 .. .. 6.43% " ... Xvlenes (total) 24.6 26.2 ------------" 04/22/08 01:14 Surrogate(s): 4-BFB (PID) Recovery: 121% Limits: 68-140% Matrix Spike (8D21031-MS2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 EPA 8021B 33.1 04/21/08 18:00 Benzene 0.500 ug/l 0.813 30.0 108% (46-130) ----1x ------" ., Toluene 30.7 0.500 0.145 102% (60-124) ---------" .. ., Ethylbenzene 38.4 0.500 7.30 104% (56-141) ---------.. .. 117 1.00 (66-132) ... Xylenes (total) 26.2 90.0 101% ----------" 04/21/08 18:00 Surrogate(s): 4-BFB (PID) 119% Limits: 68-140% Recovery:

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2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**1001430 (418 Illinois)** er: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D14042 Water Preparation Method: EPA 3010A Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes (Limits) RPD REC Result Amt Blank (8D14042-BLK1) Extracted: 04/14/08 15:31 EPA 6010B 04/15/08 15:24 ND 0.0500 Barium --mg/l 1x ---\_ ---\_\_\_ ---Selenium .. ND 0.150 .. ---------.. 0.00500 ... Cadmium ND ----------------.. ... ND 0.0100 Silver -----------------.. .. Lead ND 0.0500 ---------.. .. ND 0.0100 .. Chromium ... ND 0.100 Arsenic ---LCS (8D14042-BS1) Extracted: 04/14/08 15:31 Silver EPA 6010B 1.05 0.0100 1x 1.00 105% (79-122) 04/15/08 15:38 mg/l " Barium " 5.28 0.0500 .. 5.00 106% (80-120) ... .. ... 105% Lead 5.24 ----0.0500 ---------" Cadmium 5.23 0.00500 ---105% ---.. 5.33 0.100 .. 107% .. Arsenic Selenium ... 5.22 0.150 ... 104% ---------5 29 0.0100 106% Chromium ------\_\_\_ Duplicate (8D14042-DUP1) OC Source: BRD0183-05 Extracted: 04/14/08 15:31 Chromium EPA 6010B ND 0.0100 1x ND NR (20) 04/15/08 15:45 mg/l ---------.. 0.00500 .. NR ... Cadmium ND ND ---" " Selenium ND 0.150 ND \_\_\_ NR ---., ND 0.100 .. ND ., Arsenic ---.. 0.0500 .. ., 0.0639 0.0599 6.46% Lead ---------.. 0.0100 Silver ND ND ---NR (40) ------Barium 0.268 0.0500 0.252 6.03% (25) ---Matrix Spike (8D14042-MS1) **OC Source:** BRD0183-05 Extracted: 04/14/08 15:31 EPA 6010B 04/15/08 15:41 Arsenic 5.30 ---0.100 mg/l 1x ND 5.00 106% (80-120)-----Barium 5.37 0.0500 0.252 102% (60-136) ., 0.00500 .. ., .. Cadmium 5.12 ND 102% (80-120) ... ... .. ... 4.90 0.0500 0.0599 96.8% Lead ---------... Silver 0.998 ---0.0100 ND 1.00 99.8% (78 - 125)-----Selenium 5.19 0.150 ND 5.00 104% (80-120) -----

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Chromium

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0.0100

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ND

100%

5.01



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**1001430 (418 Illinois)** 45512

Greg Montgomery

Report Created: 04/30/08 17:40

## Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8D14042	Water P	reparation M	ethod: EF	PA 3010A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	%∧ RPD	(Limits	s) Analyzed	Notes
Post Spike (8D14042-PS1)				QC Source: 1	BRD0183-(	)5		Ext	racted:	04/14/08 15:	:31			
Cadmium	EPA 6010B	5.12			ug/ml	1x	0.000100	5.00	102%	(75-125)			04/15/08 15:48	
Silver		1.01				"	-0.00420	1.00	101%					
Barium		5.30				"	0.252	5.00	101%					
Chromium		5.04				"	0.000600	"	101%					
Lead		4.99				"	0.0599	"	98.6%					
Arsenic		5.28				"	0.00970	"	105%					

QC Batch: 8D15026	Water P	reparation M	ethod: E	PA 7470A								
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% (Limit	s) Analyzed	Notes
Blank (8D15026-BLK1)								Extracted:	04/15/08 10	):25		
Mercury	EPA 7470A	ND		0.000200	mg/l	1x					04/15/08 14:05	
LCS (8D15026-BS1)								Extracted:	04/15/08 10	):25		
Mercury	EPA 7470A	0.00525		0.000200	mg/l	lx		0.00500 105%	(80-120)		04/15/08 14:07	
LCS Dup (8D15026-BSD1)								Extracted:	04/15/08 10	):25		
Mercury	EPA 7470A	0.00527		0.000200	mg/l	lx		0.00500 105%	(80-120)	0.430% (20)	04/15/08 14:10	
Duplicate (8D15026-DUP1)				QC Source:	BRD0123-	01		Extracted:	04/15/08 10	):25		
Mercury	EPA 7470A	ND		0.000200	mg/l	1x	ND			69.9% (20)	04/15/08 14:30	R4
Matrix Spike (8D15026-MS1)				QC Source:	BRD0123-	01		Extracted:	04/15/08 10	):25		
Mercury	EPA 7470A	0.00493		0.000200	mg/l	1x	0.0000643	0.00500 97.3%	(75-125)		04/15/08 14:28	

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Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

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**1001430 (418 Illinois)** er: 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### EDB and DBCP by EPA Method 8011 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15016 Water Preparation Method: Solvent Extraction REC (Limits) RPD Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Blank (8D15016-BLK1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M ND 0.010 1x 04/15/08 19:54 --------ug/l ------LCS (8D15016-BS1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.053 0.010 1x 0.0500 105% (80-120) 04/15/08 20:18 ug/l ------------Extracted: 04/15/08 09:10 LCS (8D15016-BS4) 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.051 ---0.010 ug/l 1x ---0.0500 102% (80-120) 04/17/08 18:51 LCS (8D15016-BS5) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.104 0.010 1x 0.100 104% 04/17/08 20:03 ---ug/l ---(80-120) ------LCS (8D15016-BS9) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.046 0.010 1x 0.0500 92.3% (80-120) 04/24/08 17:02 --ug/l Extracted: 04/15/08 09:10 LCS (8D15016-BSA) EPA 8011M 0.100 83.5% 1,2-Dibromoethane (EDB) 04/24/08 19:03 0.083 ----0.010 ug/l 1x---(80-120) --LCS Dup (8D15016-BSD1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.051 0.010 1x 0.0500 103% (80-120) 2.46% (20) 04/15/08 20:42 ------ug/l

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Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

#### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15034 Water Preparation Method: EPA 5030B Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed (Limits) Notes RPD REC Result Amt Blank (8D15034-BLK1) Extracted: 04/15/08 08:33 04/15/08 13:50 EPA 8260B Acetone ND ---20.0 ug/l 1x ------ND 1.00 Benzene ---.. ND 1.00 Bromobenzen --------.. ... Bromochloromethane ND 1.00 -----------------... Bromodichloromethane ND 1.00 ---------Bromoform ND 1.00 Bromomethane ND 2.00 -----2-Butanone ND 10.0-----\_\_\_\_ ------ND 1.00 n-Butylbenzene --sec-Butylbenzene ND 1.00 --tert-Butylbenzene ND 1.00 --------------Carbon disulfide ND 1.00 ------------\_\_\_ ---Carbon tetrachloride ND 1.00 \_\_\_ \_\_\_ ---С Chlorobenzene ND 1.00 ---Chloroethane ND 1.00 ---\_\_\_\_ -----1-Chlorohexane ND 1.00 ---\_\_\_\_ Chloroform ND 1.00 ---... Chloromethane ND 5.00 ------------------2-Chlorotoluene ND 1.00 ---------4-Chlorotoluene ND 1.00 ---Dibromochloromethane ND 1.00 ---1.2-Dibromo-3-chloropropane ND 5.00 \_\_\_\_ -----------1,2-Dibromoethane ND 1.00 ---Dibromomethane ND 1.00 1,2-Dichlorobenzene ND 1.00 ---------------1,3-Dichlorobenzene ND ---1.00 ---------------1,4-Dichlorobenzene ND 1.00 ---Dichlorodifluoromethane ND 1.00

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1,1-Dichloroethane

1,2-Dichloroethane

1.1-Dichloroethene

cis-1.2-Dichloroethene

1,2-Dichloropropane

1,3-Dichloropropane

2.2-Dichloropropane

1,1-Dichloropropene

cis-1,3-Dichloropropene trans-1,3-Dichloropropene

trans-1.2-Dichloroethene

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Blake T. Meinert, Project Manager



## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

## Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

			Т	estAmeric	a Seattle									
QC Batch: 8D15034	Water I	Preparation	Method: EP	PA 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Blank (8D15034-BLK1)								Extr	acted:	04/15/08 08	3:33			
Ethylbenzene	EPA 8260B	ND		1.00	ug/l	1x							04/15/08 13:50	
Hexachlorobutadiene	"	ND		5.00	"	"							"	
Methyl tert-butyl ether	"	ND		2.00	"	"							"	
n-Hexane	"	ND		2.00	"	"								
2-Hexanone	"	ND		10.0	"	"								
Isopropylbenzene	"	ND		1.00	"	"							"	
p-Isopropyltoluene	"	ND		1.00	"	"							"	
4-Methyl-2-pentanone	"	ND		10.0	"	"							"	
Methylene chloride	"	ND		5.00	"	"								
Naphthalene	"	ND		5.00	"	"								
n-Propylbenzene	"	ND		1.00	"									
Styrene	"	ND		1.00	"	"								
1,2,3-Trichlorobenzene		ND		5.00	"	"								
1,2,4-Trichlorobenzene	"	ND		5.00	"	"								
1,1,1,2-Tetrachloroethane	"	ND		1.00	"	"								
1,1,2,2-Tetrachloroethane	"	ND		1.00	"	"							"	
Tetrachloroethene	"	ND		1.00	"								"	
Toluene	"	ND		1.00	"	"							"	
1,1,1-Trichloroethane	"	ND		1.00	"								"	
1,1,2-Trichloroethane	"	ND		1.00	"									
Trichloroethene	"	ND		1.00	"								"	
Trichlorofluoromethane	"	ND		1.00	"									
1.2.3-Trichloropropane	"	ND		1.00	"									
1.2.4-Trimethylbenzene	"	ND		1.00	"									
1,3,5-Trimethylbenzene	"	ND		1.00										
Vinyl chloride	"	ND		1.00										
o-Xylene	"	ND		1.00										
m,p-Xylene	"	ND		2.00										
Total Xylenes	"	ND		3.00		"							"	
Surrogate(s): 1.2-DCA-d4		Recovery:	96.2%	Lim	ts: 70-130%	"							04/15/08 13:5	0
Toluene-d8			94.8%		75-125%	ó "							"	
4-BFB			103%		75-125%	ó "							"	

TestAmerica Seattle

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Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512

Greg Montgomery

Report Created: 04/30/08 17:40

## Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Bate	h: 8D15034	Water I	Preparation	n Method:	EPA 5030E	3									
Analyte		Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	∾ REC	(Limits)	% RPD	(Limits	8) Analyzed	Notes
LCS (8D15034	4-BS1)								Ext	racted:	04/15/08 08	:33			
Benzene		EPA 8260B	41.3		1.00	ug/l	1x		40.0	103%	(80-120)			04/15/08 12:14	
Chlorobenzene		"	36.5		1.00	"			"	91.3%				"	
1,1-Dichloroethene		"	47.0		1.00	"			"	117%	(75-125)			"	
Methyl tert-butyl eth	er	"	37.8		2.00	"			"	94.5%	(75-126)			"	
Toluene		"	36.5		1.00	"			"	91.4%	(75-125)			"	
Trichloroethene		"	40.2		1.00				"	101%	"			"	
Total Xylenes		"	120		3.00	"	"		120	99.6%				"	
Surrogate(s):	1,2-DCA-d4		Recovery:	92.6%	Li	mits: 70-130%	"							04/15/08 12:14	
	Toluene-d8			94.4%		75-125%	ś "							"	
	4-BFB			99.8%		75-125%	<i>"</i>							"	
LCS Dup (8D	15034-BSD1)								Ext	racted:	04/15/08 08	:33			
Benzene		EPA 8260B	42.1		1.00	ug/l	1x		40.0	105%	(80-120)	2.01%	6 (20)	04/15/08 12:43	
Chlorobenzene		"	35.8		1.00	"			"	89.5%	"	2.02%	6 "	"	
1,1-Dichloroethene		"	48.3		1.00				"	121%	(75-125)	2.81%	6 "		
Methyl tert-butyl eth	er	"	37.1		2.00				"	92.8%	(75-126)	1.79%	6 "		
Toluene		"	35.9		1.00				"	89.7%	(75-125)	1.82%	6 "		
Trichloroethene		"	40.8		1.00				"	102%	"	1.33%	6 "		
Total Xylenes		"	117		3.00	"	"		120	97.6%		2.04%	6 "	"	
Surrogate(s):	1,2-DCA-d4		Recovery:	93.0%	Li	mits: 70-130%	"							04/15/08 12:43	
	Toluene-d8			92.0%		75-125%	5 "							"	
	4-BFB			100%		75-125%	5 "							"	

TestAmerica Seattle

Blake Maint

Blake T. Meinert, Project Manager





## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**1001430 (418 Illinois)** 45512 Greg Montgomery

Report Created: 04/30/08 17:40

#### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D15014	Water F	Preparation	Method: EP	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D15014-BLK2)								Extr	acted:	04/15/08 09	:04			
Acenaphthene	EPA 8270C-SIM	ND		0.100	ug/l	1x							04/21/08 14:17	
Acenaphthylene	"	ND		0.100	"	"								
Anthracene	"	ND		0.100	"	"								
Benzo (a) anthracene	"	ND		0.100	"	"								
Benzo (a) pyrene	"	ND		0.100	"	"								
Benzo (b) fluoranthene	"	ND		0.100	"	"								
Benzo (k) fluoranthene	"	ND		0.100	"	"								
Benzo (ghi) perylene	"	ND		0.100	"	"								
Chrysene	"	ND		0.100	"	"								
Dibenz (a,h) anthracene		ND		0.100	"	"								
Fluoranthene	"	ND		0.100	"									
Fluorene	"	ND		0.100	"									
Indeno (1,2,3-cd) pyrene		ND		0.100	"									
1-Methylnaphthalene		ND		0.100	"									
2-Methylnaphthalene		ND		0.100	"									
Naphthalene		ND		0.100	"									
Phenanthrene		ND		0.100	"									
Pyrene	"	ND		0.100									"	
Surrogate(s): p-Terphenyl-d14		Recovery:	90.9%	Lin	uits: 20-131%	"							04/21/08 14:1	7
LCS (8D15014-BS2)								Extr	acted:	04/15/08 09	:04			
Acenaphthene	EPA 8270C-SIM	16.0		0.100	ug/l	1x		20.0	80.1%	(68-129)			04/25/08 16:20	
Acenaphthylene	"	16.5		0.100	"	"		"	82.5%	(77-129)			"	
Anthracene	"	18.6		0.100	"	"		"	93.0%	(80-146)				
Benzo (a) anthracene	"	16.0		0.100	"	"		"	79.9%	(73-120)				
Benzo (a) pyrene	"	17.4		0.100	"	"			87.2%	(70-132)				

TestAmerica Seattle

Benzo (b) fluoranthene

Benzo (k) fluoranthene

Benzo (ghi) perylene

Dibenz (a,h) anthracene

Indeno (1,2,3-cd) pyrene

1-Methylnaphthalene

2-Methylnaphthalene

Chrysene

Fluorene

Fluoranthene

Naphthalene

Phenanthrene

Blake Macunt

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18.5

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The results in this report apply to the samples analyzed in accordance with the chain

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83.7%

90.9%

83.7%

92.6%

85.1%

89.7%

83.8%

81.5%

69.4%

67.4%

67.1%

(68-148)

(63-150)

(46-142)

(80-132)

(56-138)

(79-138)

(42-120)

(53-136)

(41 - 120)

(43-122)

(38-128)

84.0% (77-123)

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of custody document. This analytical report shall not be reproduced except in full,

without the written approval of the laboratory.

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Blake T. Meinert, Project Manager



## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

1001430 (418 Illinois) 45512 Greg Montgomery

Report Created: 04/30/08 17:40

#### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results TestAmerica Seattle

		-			,									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	i) Analyzed	Notes
LCS (8D15014-BS2)								Ext	racted:	04/15/08 09	:04			
Pyrene	EPA 8270C-SIM	18.0		0.100	ug/l	1x		20.0	89.9%	(60-150)			04/25/08 16:20	
Surrogate(s): p-Terphenyl-d14		Recovery: 8	4.6%	Lin	nits: 20-131%	"							04/25/08 16:20	
LCS Dup (8D15014-BSD2)								Ext	racted:	04/15/08 09	:04			
Acenaphthene	EPA 8270C-SIM	15.6		0.100	ug/l	1x		20.0	77.9%	(68-129)	2.78%	(30)	04/25/08 16:51	
Acenaphthylene	"	16.0		0.100		"		"	80.2%	(77-129)	2.83%	"		
Anthracene		18.3		0.100	"	"		"	91.3%	(80-146)	1.84%		"	
Benzo (a) anthracene		15.4		0.100	"	"		"	77.2%	(73-120)	3.44%		"	
Benzo (a) pyrene		17.2		0.100	"	"		"	86.1%	(70-132)	1.27%		"	
Benzo (b) fluoranthene		18.3		0.100	"	"		"	91.4%	(68-148)	8.79%		"	
Benzo (k) fluoranthene		16.1		0.100				"	80.6%	(63-150)	12.0%	"		
Benzo (ghi) perylene		16.4		0.100				"	81.8%	(46-142)	2.30%	"		
Chrysene		18.0		0.100	"	"		"	89.8%	(80-132)	3.07%		"	
Dibenz (a,h) anthracene		16.7		0.100	"	"		"	83.7%	(56-138)	1.66%		"	
Fluoranthene		17.4		0.100	"	"		"	87.1%	(79-138)	2.94%		"	
Fluorene		16.5		0.100	"	"		"	82.3%	(42-120)	1.81%		"	
Indeno (1,2,3-cd) pyrene		16.0		0.100	"	"		"	80.1%	(53-136)	1.73%		"	
1-Methylnaphthalene		13.1		0.100				"	65.4%	(41-120)	5.93%	"		
2-Methylnaphthalene		12.6		0.100	"	"		"	63.2%	(43-122)	6.43%		"	
Naphthalene		12.5		0.100		"		"	62.6%	(38-128)	6.94%			
Phenanthrene		16.6		0.100		"		"	82.9%	(77-123)	1.32%			
Pyrene	"	17.7		0.100	"	"		"	88.6%	(60-150)	1.46%	"	"	

Surrogate(s): p-Terphenyl-d14

TestAmerica Seattle

Blake Maint

Blake T. Meinert, Project Manager





#### Arcadis, Geraghty, & Miller - Seattle 1001430 (418 Illinois) Project Name: Report Created: 2300 Eastlake Avenue East, Suite 100 Project Number: 45512 Seattle, WA/USA 98102 Project Manager: Greg Montgomery 04/30/08 17:40

#### Notes and Definitions

#### Report Specific Notes:

- С Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted. C5 Calibration Verification recovery was below the method control limit for this analyte. An additional check standard was analyzed at the reporting limit to ensure instrument sensitivity at the reporting limit. Samples ND. M3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS). **O6** Results in the diesel organics range are primarily due to overlap from a heavy oil range product. Q8 Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons. R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information. ZX Due to sample matrix effects, the surrogate recovery was outside the acceptance limits. Laboratory Reporting Conventions: Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only. DET Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). ND NR/NA Not Reported / Not Available Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet on a Wet Weight Basis. RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
  - MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
  - Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.
- Electronic - Electronic Signature added in accordance with TestAmerica's Electronic Reporting and Electronic Signatures Policy. Signature Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Seattle

Blake Macing

Blake T. Meinert, Project Manager



Bothell, WA 98011							-		•					BI	20	20	183	3			TestAmerica La	aboratories, ]	lnc.
phone 425.420.9200 fax 425.420.9210	Project M	anoger: Cr	a Montaor	merv		Site	Cont	act:	Mik	e Str	ickle	r		D	ate: A	\pril	10.	2008		_	COC No:	-	
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Sample Identification	Date	Time	Туре	Matrix	Cont.		5 2	ŝ	E	ā	Z	A	ů	+	+	_			_	╪	Sample	Specific Notes:	<u> </u>
TH-1-W-080408	4/8/2008	1500		w	5		<u>x x</u>			x	x												-01
TH-2-W-080408	4/8/2008	1635		w	5	Π	x x	Τ		x	x										Hot-MAY R	EQUIRE DILU	TON_(
TH 7.W.080408	4/8/2008	1525		w	5	Π	x x		Τ	x	x					Τ						-07	み
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1H-13-W-080410	4/10/2008	1545			15	Ħ		f	Ê	Î.			Ì		╋	+-	-		+	╈	<u> </u>	-10	()
MW-23-W-080408	4/8/2008	1000	· · · ·	+ <u>w</u>	3	<del>┦</del> ╂		+	╈	Ê	<u>^</u>		-+	+	╉─					+	MAY RE(	UIRE DILUT	ION-07
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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=Na	oH; 6= Ot	ner					2	2 2	2 1	2	2	1	4										
Possible Hazard Identification							Sam	ple D	Disp	osal	(A)	fee n	nay	be a	sses	sed	if sa	mple	s are	e ret ¬	ained longer tha	n 1 month)	
Non-Hazard 🛛 Flammable 🖾 Skin Irritant	Poiso	$n B \square$	Unknow	$n \square$				Ret	turn	То С	Client	ł		Di	spos	al By	/Lal	>			chive For	Months	
Special Instructions/QC Requirements & Comments: Total Meta dichloroethene, 1,1,1-trichloroethane, 1,2-dichloroethane, (1,2-DC	als = Arsenic CA)	c, Barium, (	Cadmium,	Chromiu	ım, Lea	d, M	ercur	y, Se	leni	um, 1	Silve	r		V	UCs :	= Ca	rbon	Tetr	acho	riđe,	letracnoroetnene	, tricnioroeute	ж, 1,1-
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matrym	0AS	IS		4-11	08		2	$\mathcal{I}$	wa	m	c k	th,	///	4_		[	251	11-	14/0	<u>C</u> G	<u>412.08</u>		
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### **TestAmerica Seattle**

11720 North Creek Parkway N Suite 400

### **Chain of Custody Record**

**TestAmerica** 

THE LEADER IN ENVIRONMENTAL TESTING

TAT:	Paperwork to	PM – Date: Ti	me: Non-Conformances?
			Circle(Y/or N
			(If Y, see other side)
	TEST AMERICA	SAMPLE RECEIF	T CHECKLIST S23, 345
Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled I	<b>By:</b> Cooler ID: $\frac{240,349}{10,349}$ , ( of)
Date: 4-12-08	Date: <u>04-14</u>	Date: <u>64:14</u>	Work Order No. <u>BRD0183</u>
Time: 12:03	Initials: <u>CN</u>	Initials: <u>CW</u>	Client:
Initials: Ds A		·	Project:
Container Type:	COC Se	eals:	Packing Material
X Cooler	Ship. Container	Sign By	X Bubble Bags Styrofoam
Box	On Bottles	Date	Foam Packs
None/Other	N	one	None/Other Other
		•	· · ·
Refrigerant:	Ni	nne	Received Via: Bill#
None/Other			DHL Mid Valley
			Senvoy TDP
			GS Other
Cooler Temperature (IF	۲): 5.۹ °C Plastic Gla	ss (Frozen filters, Te	dlars and aqueous Metals exempt) 5.9 2.2
	(circle one)	11	4.4.3.1.1.6
Temperature Blank?	C or NA Temperature 1	s kaks Trip Blank?	Y)or N or NA
Sample Containers:	<u>ID</u>	·	
Intact?	( <u>Y</u> or N	Metals Preserv	ed? (Y) or N or NA
Provided by TA?	(Y)or N	Client QAPP Pi	reserved? Y or N or NA
Correct Type?	(Y) or N	Adequate Volui	me? Y or (N)
#Containers match CO	C? 🕥 or N	Water VOAs: H	leadspace? Y on Nor NA
IDs/time/date match CC	)C?'(Y)or N	Comments:	
Hold Times in hold?	(Ŷ)or N		
PROJECT MANAGEM	ENT		
Is the Chain of Custody	complete?		$Y \   \text{or} \   N$ . If N, circle the items that were incomplete
Comments, Problems		······································	
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	<u></u>		
Total access set up? Has client been contacted reg	garding non-conformances?	•	Y OF N Y OF N If Y,/
PM Initials:	Date: T	ime:	Date Time
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# NOTIFICATION OF DISCREPANCY

DATE: <u>14448</u> TIME: 0750	PM: Clake Menn	SC INITIALS: Chu
Rush/Short Hold? 🗇 Yes 💆 No		
<ul> <li>✓ Project Not Set Up in ELM</li> <li>☑ Analysis Requested on COC – Not Liste</li> </ul>	v Client E ed for Project in EI	COC Received ON HOLD
<ul> <li>PM To Add Analysis:</li></ul>	DC:	
□ Received Extra Sample(s) Not Listed on	COC:	
□ Sample Description(s) or Date/Time Sar	npled Do Not Mato	ch COC:
<ul> <li>☐ Improper Preservative For method:</li></ul>	ud 125 mi aint	mis(2) fir SULLEDB.
<ul> <li>Temperature Outside recommended ran</li> <li>Received on-ice within 4 hours of col acceptable.</li> <li>Other:</li> </ul>	nge (4°C±2°C): llection, temperatu	re between ambient to 2°C
PROJECT MANAGER RESOLUTION:	(Date a	& Time when returned to SC)
Approval By:	Date:	Time:

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June 13, 2008

Greg Montgomery Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

RE: 211815 (410 Driveway)

Enclosed are the results of analyses for samples received by the laboratory on 04/12/08 12:03. The following list is a summary of the Work Orders contained in this report, generated on 06/13/08 14:35.

If you have any questions concerning this report, please feel free to contact me.

Work Order	Project	ProjectNumber
BRD0184	211815 (410 Driveway)	45505

TestAmerica Seattle

gent lines

Curtis D. Armstrong For Blake T. Meinert, Project Manager




SEATTLE, WA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210 CS Approval Number: UST-067

# Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: 211815 Project Number: 45505

211815 (410 Driveway)

Greg Montgomery

Report Created: 06/13/08 14:35

#### ANALYTICAL REPORT FOR SAMPLES

Project Manager:

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AR-81-W-080410	BRD0184-01	Water	04/10/08 15:55	04/12/08 12:03
AR-85-W-080410	BRD0184-02	Water	04/10/08 14:50	04/12/08 12:03
MW-3-W-080410	BRD0184-03	Water	04/10/08 16:50	04/12/08 12:03
MW-7-W-080410	BRD0184-04	Water	04/10/08 19:45	04/12/08 12:03
MW-8-W-080410	BRD0184-05	Water	04/10/08 20:05	04/12/08 12:03
MW-9-W-080410	BRD0184-06	Water	04/10/08 20:25	04/12/08 12:03
MW-10-W-080410	BRD0184-07	Water	04/10/08 20:45	04/12/08 12:03
DUP-1-W-080410	BRD0184-08	Water	04/10/08 08:00	04/12/08 12:03
QA-T-080410	BRD0184-09	Water	04/10/08 06:00	04/12/08 12:03

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

umber: 45505 lanager: Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

•	Gasoline Ra	inge Hydro	carbons TestAi	<b>(n-He</b> merica S	<b>xane</b> eattle	to <n-< th=""><th>Decane) l</th><th>oy AK101</th><th></th><th></th><th></th></n-<>	Decane) l	oy AK101			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-01 (AR-81-W-080410)		v	Vater			Sample	d: 04/10/08 1	5:55			
Gasoline Range Hydrocarbons	AK 101	121	5	50.0	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 23:47	KMT	
Surrogate(s): 4-BFB (FID)			96.3%		60 -	120 %	"			"	
BRD0184-02 (AR-85-W-080410)		v	Vater			Sample	d: 04/10/08 1	4:50			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 00:20	KMT	
Surrogate(s): 4-BFB (FID)			89.5%		60 -	120 %	"			"	
BRD0184-03 (MW-3-W-080410)		v	Vater			Sample	d: 04/10/08 1	6:50			
Gasoline Range Hydrocarbons	AK 101	33300	2	500	ug/l	50x	8D17046	04/17/08 15:51	04/18/08 07:23	KMT	
Surrogate(s): 4-BFB (FID)			90.5%		60 -	120 %	<i>1x</i>			"	
BRD0184-04RE1 (MW-7-W-080410)		v	Vater			Sample	d: 04/10/08 1	9:45			
Gasoline Range Hydrocarbons	AK 101	8650	1	000	ug/l	20x	8D21031	04/21/08 12:29	04/22/08 08:50	KMT	
Surrogate(s): 4-BFB (FID)			93.1%		60 -	120 %	<i>1x</i>			"	
BRD0184-05RE1 (MW-8-W-080410)		v	Vater			Sample	d: 04/10/08 2	0:05			
Gasoline Range Hydrocarbons	AK 101	5700	2	250	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 06:39	KMT	
Surrogate(s): 4-BFB (FID)			107%		60 -	120 %	lx			"	
BRD0184-06RE1 (MW-9-W-080410)		v	Vater			Sample	d: 04/10/08 2	0:25			
Gasoline Range Hydrocarbons	AK 101	92.7	5	50.0	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 04:29	KMT	
Surrogate(s): 4-BFB (FID)			87.8%		60 -	120 %	"			"	
BRD0184-07 (MW-10-W-080410)		v	Vater			Sample	d: 04/10/08 2	0:45			
Gasoline Range Hydrocarbons	AK 101	498	5	50.0	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 01:57	KMT	
Surrogate(s): 4-BFB (FID)			108%		60 -	120 %	"			"	
BRD0184-08 (DUP-1-W-080410)		v	Vater			Sample	d: 04/10/08 0	8:00			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 04:40	KMT	
Surrogate(s): 4-BFB (FID)			88.3%		60 -	120 %	"			"	

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

mber: 45505 nager: Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

#### Gasoline Range Hydrocarbons (n-Hexane to <n-Decane) by AK101 TestAmerica Seattle Dil Analyte Method Result MDL\* MRL Units Batch Prepared Analyzed Analyst Notes (QA-T-080410) Water Sampled: 04/10/08 06:00 BRD0184-09 KMT 04/17/08 15:51 04/17/08 22:10 Gasoline Range Hydrocarbons AK 101 ND -----50.0 ug/l $1 \, \mathrm{x}$ 8D17046 " " Surrogate(s): 4-BFB (FID) 88.5% 60 - 120 %

TestAmerica Seattle

Alleray C

Curtis D. Armstrong For Blake T. Meinert, Project Manager





### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

ber: 45505

Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

# Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103

				Tes	tAmerica	Seattle						
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-01	(AR-81-W-080410)		,	Water			Sample	d: 04/10/08 1	5:55			
Diesel Range Hydr Residual Range Org	rocarbons ganics	AK102_103	<b>4.29</b> ND		0.0952 0.714	mg/l "	1x "	8D14014 "	04/14/08 09:27	04/16/08 04:33	EKK EKK	
Surrogate(s):	2-FBP Octacosane			93.3% 91.3%		50 - 50 -	150 % 150 %	"			" "	
BRD0184-02	(AR-85-W-080410)		,	Water			Sample	d: 04/10/08 1	4:50			
Diesel Range Hydr Residual Range Org	rocarbons ganics	AK102_103	<b>0.951</b> ND		0.0980 0.735	mg/l "	1x "	8D14014 "	04/14/08 09:27	04/16/08 04:59	ЕКК ЕКК	
Surrogate(s):	2-FBP Octacosane			89.6% 93.7%		50 - 50 -	150 % 150 %	"			"	
BRD0184-03	(MW-3-W-080410)		,	Water			Sample	d: 04/10/08 1	6:50			
Diesel Range Hydr Residual Range Oi	ocarbons rganics	AK102_103	11.0 0.942		0.100 0.750	mg/l "	1x "	8D14014 "	04/14/08 09:27	04/16/08 05:25 "	ЕКК ЕКК	Q10 Q7
Surrogate(s):	2-FBP Octacosane			100% 95.4%		50 - 50 -	150 % 150 %	"			"	
BRD0184-04	(MW-7-W-080410)		,	Water			Sample	d: 04/10/08 1	9:45			
Diesel Range Hydr Residual Range Org	rocarbons ganics	AK102_103	<b>4.73</b> ND		0.100 0.750	mg/l "	lx "	8D14014 "	04/14/08 09:27	04/16/08 05:51	ЕКК ЕКК	Q10
Surrogate(s):	2-FBP Octacosane			86.7% 91.6%		50 - 50 -	150 % 150 %	"			"	
BRD0184-05	(MW-8-W-080410)		,	Water			Sample	d: 04/10/08 2	0:05			
Diesel Range Hydr Residual Range Org	rocarbons ganics	AK102_103	<b>2.95</b> ND		0.100 0.750	mg/l "	1x "	8D14014 "	04/14/08 09:27	04/16/08 06:16	ЕКК ЕКК	Q10
Surrogate(s):	2-FBP Octacosane			87.5% 97.7%		50 - 50 -	150 % 150 %	"			"	
BRD0184-06	(MW-9-W-080410)		,	Water			Sample	d: 04/10/08 2	0:25			
Diesel Range Hydr Residual Range Org	ocarbons ganics	AK102_103	<b>0.538</b> ND		0.100 0.750	mg/l "	1x "	8D14014 "	04/14/08 09:27	04/16/08 06:42	EKK EKK	
Surrogate(s):	2-FBP Octacosane			84.8% 92.1%		50 - 50 -	150 %	"			"	

TestAmerica Seattle

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full,

without the written approval of the laboratory.





# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

mber: 45505 mager: Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

#### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-07	(MW-10-W-080410)		V	Vater			Sample	d: 04/10/08 2	0:45			
Diesel Range Hydro	ocarbons	AK102_103	1.15		0.102	mg/l	1x	8D14014	04/14/08 09:27	04/16/08 07:08	EKK	
Residual Range Org	anics	"	ND		0.765	"	"	"	"	"	EKK	
Surrogate(s):	2-FBP			90.1%		50 -	150 %	"			"	
	Octacosane			92.8%		50 -	150 %	"			"	
BRD0184-08	(DUP-1-W-080410)		v	Vater		i	Sample	d: 04/10/08 0	8:00			
Diesel Range Hydro	ocarbons	AK102_103	0.522		0.0943	mg/l	1x	8D14014	04/14/08 09:27	04/16/08 07:34	EKK	
Residual Range Org	anics	"	ND		0.708	"	"	"	"	"	EKK	
Surrogate(s):	2-FBP			81.7%		50 -	150 %	"			"	
	Octacosane			90.1%		50 -	150 %	"			"	

TestAmerica Seattle

Alleray C

Curtis D. Armstrong For Blake T. Meinert, Project Manager





Arcadis, Geraghty, & Miller - Seattle	
2300 Eastlake Avenue East, Suite 100	

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

211815 (410 Driveway) 45505

Greg Montgomery

Report Created: 06/13/08 14:35

			BTI	EX by Tes	EPA N stAmerica	<b>lethod</b> Seattle	8021B	5				
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-01	(AR-81-W-080410)		v	Vater			Sample	d: 04/10/08 1	5:55			
Benzene		EPA 8021B	0.623		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 23:47	KMT	
Toluene			ND		0.500	"	"	"		"	KMT	
Ethylbenzene			ND		0.500	"	"	"	"	"	KMT	
Xylenes (total)		"	1.18		1.00	"	"	"	"	"	KMT	
Surrogate(s).	4-BFB (PID)			105%	6	68 -	140 %	"			"	
BRD0184-02	(AR-85-W-080410)		v	Vater			Sample	d: 04/10/08 1	4:50			
Benzene		EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 00:20	KMT	
Toluene			ND		0.500	"	"	"	"	"	KMT	
Ethylbenzene			ND		0.500	"	"	"	"	"	KMT	
Xylenes (total)			ND		1.00	"	"	"	"	"	KMT	
Surrogate(s).	4-BFB (PID)			101%	6	68 -	140 %	"			"	
BRD0184-03	(MW-3-W-080410)		v	Vater			Sample	d: 04/10/08 1	6:50			
Benzene		EPA 8021B	1540		25.0	ug/l	50x	8D17046	04/17/08 15:51	04/18/08 07:23	KMT	
Toluene			2080		25.0	"	"	"		"	KMT	
Ethylbenzene			923		25.0	"	"	"	"	"	KMT	
Xylenes (total)		"	6000		50.0	"	"	"	"	"	KMT	
Surrogate(s).	4-BFB (PID)			104%	ó	68 -	140 %	<i>1x</i>			"	
BRD0184-04	(MW-7-W-080410)		v	Vater			Sample	d: 04/10/08 1	9:45			
Toluene		EPA 8021B	3.08		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 05:13	KMT	
Surrogate(s).	4-BFB (PID)			131%	6	68 -	140 %	"			"	
BRD0184-04RI	E1 (MW-7-W-080410)	)	V	Vater			Sample	d: 04/10/08 1	9:45			
Benzene		EPA 8021B	1700		10.0	ug/l	20x	8D21031	04/21/08 12:29	04/22/08 08:50	KMT	
Ethylbenzene		"	234		10.0	"	"	"	"	"	KMT	
Xylenes (total)		"	452		20.0	"	"	"	"	"	KMT	
Surrogate(s)	4-BFB (PID)			97.8%	5	68 -	140 %	lx			"	

Surrogate(s): 4-BFB (PID)

68 - 140 %

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 7 of 28

Curtis D. Armstrong For Blake T. Meinert, Project Manager



Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Report Created:

211815 (410 Driveway)

45505

Analyce         Method         Result         MDL*         MRL         Units         Dill         Bach         Prepared         Analyzed         Analyzed			BTI	EX by	EPA M	lethod Seattle	8021B					
BRD0184-05         (MW-8-W-080410)         Water         Sampled: 04/10/08 20:05           Tolance         EPA 80218         6.92          0.580         up1         1x         8D17046         04/1708 15:51         04/1808 00:52         KMT           Surrogate(s):         4-BFB (PLD)         96.7%         68-140 %	Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
Toluene         EPA 8021B         6.92          0.500         ugit         1x         8D17046         04/12/08 15.51         04/18/08 00.52         KMT           Burngate(s):         4.8FB (PID)         96.7%         68 - 140 %         -         -         -         -         -           BRD0184-0SRE1         (MW-8-W-080410)         Water         Sampled: 04/10/08 20:25         -         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         92.7%         68 - 140 %         -         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         92.7%         68 - 140 %         1.z         -         -         -         -         -         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         Water         Sampled: 04/10/08 20:25         KMT         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         105%         68 - 140 %         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         00         -         -         -         KMT           Surrogate(s):         4-BFB (PID)         100         -	BRD0184-05 (MW-8-W-080410)	)	v	Vater			Sampleo	1: 04/10/08 2	0:05			
Surrogate(s):         4.8/16 (P(D))         96.7%         68 - 140 %         *         *         *           BRD0184.05RE1         (MW-sW-080410)         Water         Samplet:         04/10/08 20:05           Benzee         EPA 8021B         458          2.50         % <th< td=""><td>Toluene</td><td>EPA 8021B</td><td>6.92</td><td></td><td>0.500</td><td>ug/l</td><td>1x</td><td>8D17046</td><td>04/17/08 15:51</td><td>04/18/08 00:52</td><td>KMT</td><td></td></th<>	Toluene	EPA 8021B	6.92		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 00:52	KMT	
BRD184-5RE1         (MV-s-W-080410)         IPA 80218         458          2.50         wpl         5.x         8/21013         04/2008 12.27         0.4/2208 06.37         MAT           Ethylbenzen         -         191          2.50         -	Surrogate(s): 4-BFB (PID)			96.7%		68 -	140 %	"			"	
Benzene       IPA 8021B       458        2.50       ugl       5x       8021031       04/21/08/12.29       04/22/08/02.39       FMT         Ethylbenzene       *       191        2.50       * <t< td=""><td>BRD0184-05RE1 (MW-8-W-0804</td><td>10)</td><td>v</td><td>Vater</td><td></td><td>1</td><td>Sampleo</td><td>1: 04/10/08 2</td><td>0:05</td><td></td><td></td><td></td></t<>	BRD0184-05RE1 (MW-8-W-0804	10)	v	Vater		1	Sampleo	1: 04/10/08 2	0:05			
Ethylenzene       "       191        2.50       *       "       "       "       "       "       "       KMT         Surrogate(s):       4.BFB (PLD)        5.00       *       *       *       *       *       *       *       KMT         BRD0184.06       (MW.9-W-080410)       V       V       Surrogate(s):       4.BFB (PLD)       V       Surrogate(s):       4.BFB (PLD)       Surrogate(s):       *       8.0500       will       1x       \$8D1046       04/1708 15.51       04/1808 01.25       KMT         Surrogate(s):       4.BFB (PLD)        0.500       *       *       *       *       *       *       *       KMT         Surrogate(s):       4.BFB (PLD)        0.500       *       *       *       *       *       *       *       *       KMT         Surrogate(s):       4.BFB (PLD)        0.500       wig1       1x       8D1045       04/1208 12.29       04/2208 04.29       KMT         Surrogate(s):        1.00       *       1.00       *       *       *       *       *       *       *       *       *       *       * </td <td>Benzene</td> <td>EPA 8021B</td> <td>458</td> <td></td> <td>2.50</td> <td>ug/l</td> <td>5x</td> <td>8D21031</td> <td>04/21/08 12:29</td> <td>04/22/08 06:39</td> <td>KMT</td> <td></td>	Benzene	EPA 8021B	458		2.50	ug/l	5x	8D21031	04/21/08 12:29	04/22/08 06:39	KMT	
Sylea         1         5.00         1         1         1         1         1         KMT           Surrogate(s):         4.BFB (PID)         99.7%         68-140 %         1x         x         x         x         x         x         x         x         x         x           BRD0184-06         (MW-9-W-080410)         Water         Samplet:         0.500         upl         1x         x	Ethylbenzene	"	191		2.50			"	"	"	KMT	
Surrogate(s):     4.8FB (PID)     Value     68 - 140 %     it     *       BRD0184-06     (MW-9-W-080410)     EPA 8021B     ND      0.500     ugl     1x     8101704     04/17/08 15.51     04/18/08 01.25     KMT       Editylbenzare     *     0.500     ugl     1x     8101704     04/17/08 15.51     04/18/08 01.25     KMT       Surrogate(s):     4-8FB (PID)     Value     Its     Samplet:     Value     Surrogate(s):     4-8FB (PID)     KMT       BRD0184-06RE1     (MV-9-W-080410)     Value     Its     Samplet:     Value     Surrogate(s):     4-8FB (PID)     KMT       BRD0184-06RE1     (MV-9-W-080410)     Value     Its     Samplet:     Value     Surrogate(s):     4-8FB (PID)     KMT       BRD0184-07     (MW-9-W-080410)     Value     Jts     Samplet:     Value     Surrogate(s):     4-8FB (PID)     KMT       BRD0184-07     (MY-0-W-080410)     Yanget     Jts     Samplet:     Surrogate(s):     4-8FB (PID)     KMT       BrD0184-07     (MY-0-W-080410)     Yanget     Jts     Samplet:     Surrogate(s):     4-8FB (PID)     KMT       BrD0184-07     (MY-0-W-080410)     Zanget     Samplet:     Samplet:     Samplet:     Samplet: <ths< td=""><td>Xylenes (total)</td><td>"</td><td>525</td><td></td><td>5.00</td><td>"</td><td>"</td><td>"</td><td>"</td><td>"</td><td>KMT</td><td></td></ths<>	Xylenes (total)	"	525		5.00	"	"	"	"	"	KMT	
BRD0184-06 (MW-9-W-080410)         FPA 8021B         ND          0.500         ug/l         1x         8D17046         04/1708 15:51         04/1808 01:25         KMT           Ethylbenzene         '         <	Surrogate(s): 4-BFB (PID)			99.7%		68 -	140 %	lx			"	
Toluene       EPA 8021B       ND        0.500       ugl       1x       8D17046       04/17/08 15.51       04/18/08 01.25       KMT         Ethylbenzene       "       "       "       "       "       "       "       "       "       "       KMT         Surrogate(s):       4.8FB (PID)        105%       68 - 140 %       " <t< td=""><td>BRD0184-06 (MW-9-W-080410)</td><td>)</td><td>v</td><td>Vater</td><td></td><td></td><td>Sampleo</td><td>l: 04/10/08 2</td><td>0:25</td><td></td><td></td><td></td></t<>	BRD0184-06 (MW-9-W-080410)	)	v	Vater			Sampleo	l: 04/10/08 2	0:25			
Ethylbenzene       "       ND        0.500       "       "       "       "       "       KMT         Surrogate(s):       4.BFB (PID)        105%       68 - 140 %       "       "       "       MT         BRD0184-06RE1       (MW-9-W-080410)       V       V       Surrogate(s):       4.BFB (PID)       V       Surrogate(s):       4.BFB (PID)       MT	Toluene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 01:25	KMT	
Surrogate(s):     4-BFB (PID)     105%     68 - 140 %     "     "       BRD0184-06RE1 (MW-9-W-080410)     Water     Sampled:     04/10/08 20:25       Benzene     EPA 8021B     1.61      0.500     ug/l     1x     8D21031     04/21/08 12:29     04/2208 04:29     KMT       Surrogate(s):     4-BFB (PID)     ''     ''     ''     ''     ''     ''     ''       BRD0184-07     (MW-10-W-080410)     Water     Sampled:     04/10/08 20:45     ''     ''       BRD0184-07     (MW-10-W-080410)     Water     Sampled:     04/10/08 20:45     ''     ''       BRD0184-07     (MW-10-W-080410)     Water     Sampled:     04/10/08 20:45     ''     ''       BRD0184-07     (MW-10-W-080410)     Water     Sampled:     04/10/08 15:51     04/18/08 01:57     KMT       Benzene     EPA 8021B     24,1      0.500     ''     ''     ''     ''     ''       Surrogate(s):     4-BFB (PID)     ''     100     ''     ''     ''     ''     ''     ''       Surrogate(s):     4-BFB (PID)     ''     100     ''     ''     ''     ''     ''       Surrogate(s):     4-BFB (PID)     ''     Sampled: <td>Ethylbenzene</td> <td>"</td> <td>ND</td> <td></td> <td>0.500</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>"</td> <td>KMT</td> <td></td>	Ethylbenzene	"	ND		0.500	"	"	"	"	"	KMT	
BRD0184-0GRE1         (MW-9-W-080410)         Water         Samplet:         04/10/08         20:25           Benzene         EPA 8021B         1.61          0.500         ugl         1x         8D21031         04/21/08         12:29         04/22/08 04:29         KMT           Xylenes (total)         "          1.00         "         "         "         "         "         "         "         "         MD         HD         MD          1.00         "         "         "         "         "         "         MD         HD         "         "         "         "         "         "         "         "         "         "         "         "         MD         " <td>Surrogate(s): 4-BFB (PID)</td> <td></td> <td></td> <td>105%</td> <td></td> <td>68 -</td> <td>140 %</td> <td>"</td> <td></td> <td></td> <td>"</td> <td></td>	Surrogate(s): 4-BFB (PID)			105%		68 -	140 %	"			"	
Benzene         EPA 8021B         1.61          0.500         ug/l         1x         8D21031         04/21/08 12:29         04/22/08 04:29         KMT           Xylenes (total)         "         ND          1.00         "         "         "         "         "         "         "         "         "         "         "         "         "         KMT           Surrogate(s):         4-BFB (PID)         99.5%         68 - 140 %         " </td <td>BRD0184-06RE1 (MW-9-W-0804</td> <td>10)</td> <td>v</td> <td>Vater</td> <td></td> <td></td> <td>Sampleo</td> <td>l: 04/10/08 2</td> <td>0:25</td> <td></td> <td></td> <td></td>	BRD0184-06RE1 (MW-9-W-0804	10)	v	Vater			Sampleo	l: 04/10/08 2	0:25			
Xylenes (total)       "       ND        1.00       " <td>Benzene</td> <td>EPA 8021B</td> <td>1.61</td> <td></td> <td>0.500</td> <td>ug/l</td> <td>1x</td> <td>8D21031</td> <td>04/21/08 12:29</td> <td>04/22/08 04:29</td> <td>KMT</td> <td></td>	Benzene	EPA 8021B	1.61		0.500	ug/l	1x	8D21031	04/21/08 12:29	04/22/08 04:29	KMT	
Surrogate(s):     4-BFB (PID)     99.5%     68 - 140 %     "     "       BRD0184-07     (MW-10-W-080410)     Water     Sampled:     04/10/08 20:45       Benzene     EPA 8021B     24.1      0.500     ug/l     1x     8D17046     04/17/08 15:51     04/18/08 01:57     KMT       Gluene     "     ND      0.500     "     "     "     "     KMT       Stylenes (total)     "     3.60      1.00     "     "     "     "     KMT       BRD0184-08     (DUP-1-W-080410)     Water     Sampled:     04/10/08 08:00     "     "       BRD0184-08     (DUP-1-W-080410)     Water     Sampled:     04/10/08 08:00     KMT       Benzene     EPA 8021B     ND      0.500     "     "     "     "       BRD0184-08     (DUP-1-W-080410)     Water     Sampled:     04/10/08 08:00     KMT       Benzene     EPA 8021B     ND      0.500     "     "     "     "       Benzene     Image: Mathematical and thematical and t	Xylenes (total)	"	ND		1.00	"	"		"	"	KMT	
BRD0184-07 (MW-10-W-080410)         Water         Samplet: U/10/08 20:45         04/17/08 15:51         04/18/08 01:57         KMT           Benzene         EPA 8021B         24.1          0.500         "         "         "         "         KMT           Foluene         "         ND          0.500         "         "         "         "         KMT           Ethylbenzene         "         ND          0.500         "         "         "         "         KMT           Kylenes (total)         "         ABB / 0         "         1.00         "         "         "         "         "         KMT           Surrogate(s):         4-BFB (PID)         ISS         1.00         " <td>Surrogate(s): 4-BFB (PID)</td> <td></td> <td></td> <td>99.5%</td> <td></td> <td>68 -</td> <td>140 %</td> <td>"</td> <td></td> <td></td> <td>"</td> <td></td>	Surrogate(s): 4-BFB (PID)			99.5%		68 -	140 %	"			"	
Benzene         EPA 8021B         24.1          0.500         ug/l         lx         8D17046         04/17/08 15:51         04/18/08 01:57         KMT           Toluene         "         ND          0.500         "         "         "         "         "         KMT           Ethylbenzene         "         ND          0.500         "         "         "         "         "         KMT           Kylenes (total)         "         3.60          1.00         "         "         "         "         KMT           Surrogate(s):         4-BFB (PID)         I05%         68 - 140 %         " </td <td>BRD0184-07 (MW-10-W-08041)</td> <td>0)</td> <td>v</td> <td>Vater</td> <td></td> <td></td> <td>Sampleo</td> <td>l: 04/10/08 2</td> <td>0:45</td> <td></td> <td></td> <td></td>	BRD0184-07 (MW-10-W-08041)	0)	v	Vater			Sampleo	l: 04/10/08 2	0:45			
Toluene       "       ND        0.500       "       "       "       "       "       "       KMT         Ethylbenzene       "       ND        0.500       "       "       "       "       "       KMT         Kylenes (total)       "       3.60        1.00       "       "       "       "       "       KMT         Surrogate(s):       4-BFB (PID)       IOS%       "       "       "       "       "       "       "       "       KMT         BRD0184-08       (DUP-1-W-080410)       IOS%       68 - 140 %       " <td>Benzene</td> <td>EPA 8021B</td> <td>24.1</td> <td></td> <td>0.500</td> <td>ug/l</td> <td>1x</td> <td>8D17046</td> <td>04/17/08 15:51</td> <td>04/18/08 01:57</td> <td>KMT</td> <td></td>	Benzene	EPA 8021B	24.1		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 01:57	KMT	
Bethylbenzene       "       ND        0.500       "       "       "       "       "       "       "       "       KMT         Kylenes (total)       "       3.60        1.00       "       "       "       "       "       "       "       "       KMT         Surrogate(s):       4-BFB (PID)       ID5%       68 - 140 %       "       "       "       "       "       "       "       KMT         BRD0184-08       (DUP-1-W-080410)       EPA 8021B       ND        0.500       "       "       "       "       "       "       KMT         Benzene       EPA 8021B       ND        0.500       ug/l       1x       8D17046       04/17/08 15:51       04/18/08 04:40       KMT         Coluene       "       ND        0.500       "       "       "       "       "       "       KMT         Kylenes (total)       "       ND        0.500       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "	Foluene	"	ND		0.500		"		"	"	KMT	
Kylenes (total)         "         3.60          1.00         " <td>Ethylbenzene</td> <td>"</td> <td>ND</td> <td></td> <td>0.500</td> <td></td> <td>"</td> <td></td> <td>"</td> <td>"</td> <td>KMT</td> <td></td>	Ethylbenzene	"	ND		0.500		"		"	"	KMT	
Surrogate(s):     4-BFB (PID)     105%     68 - 140 %     "     "       BRD0184-08     (DUP-1-W-080410)     Water     Sampled:     04/10/08 08:00       Benzene     EPA 8021B     ND      0.500     ug/l     1x     8D17046     04/17/08 15:51     04/18/08 04:40     KMT       Toluene     "     ND      0.500     "     "     "     "     KMT       Ethylbenzene     "     ND      0.500     "     "     "     "     KMT       Xylenes (total)     "     ND      1.00     "     "     "     "     KMT	Xylenes (total)	"	3.60		1.00	"	"	"	"	"	KMT	
BRD0184-08         (DUP-1-W-080410)         Image: Ward ward ward ward ward ward ward ward w	Surrogate(s): 4-BFB (PID)			105%		68 -	140 %	"			"	
Benzene         EPA 8021B         ND          0.500         ug/l         1x         8D17046         04/17/08 15:51         04/18/08 04:40         KMT           Toluene         "         ND          0.500         "         "         "         KMT           Ethylbenzene         "         ND          0.500         "         "         "         KMT           Xylenes (total)         "         ND          1.00         "         "         "         KMT	BRD0184-08 (DUP-1-W-080410	)	v	Vater			Sampleo	1: 04/10/08 0	8:00			
Toluene       "       ND        0.500       "       "       "       "       KMT         Ethylbenzene       "       ND        0.500       "       "       "       "       KMT         Xylenes (total)       "       ND        1.00       "       "       "       KMT	Benzene	EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/18/08 04:40	KMT	
Ethylbenzene         "ND         0.500         """"""""         KMT           Xylenes (total)         "ND          1.00         """"""""""""""""""""""""""""""""""""	Γoluene	"	ND		0.500		"		"	"	КМТ	
Xylenes (total) "ND 1.00 " " " " KMT	Ethylbenzene		ND		0.500		"	"	"	"	KMT	
	Xylenes (total)	"	ND		1.00	"	"		"	"	KMT	

Project Name:

Project Number:

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Curtis D. Armstrong For Blake T. Meinert, Project Manager



## Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

Number: 45505

Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

"

			BT	EX by Tes	EPA M tAmerica	Seattle	8021B					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-09	(QA-T-080410)		,	Water			Sampled	l: 04/10/08 0	6:00			
Benzene		EPA 8021B	ND		0.500	ug/l	1x	8D17046	04/17/08 15:51	04/17/08 22:10	KMT	
Toluene			ND		0.500		"			"	KMT	
Ethylbenzene			ND		0.500		"			"	КМТ	
Xylenes (total)		"	ND		1.00					"	KMT	

Surrogate(s): 4-BFB (PID)

101%

"

68 - 140 %

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#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

mber: 45505

Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

#### Total Metals by EPA 6000/7000 Series Methods TestAmerica Seattle

		Mahad	<b>D</b> 14		MDI	U	D.1	D-4-h	Durana			<b>N</b> . (
Analyte		Method	Result	MDL*	MKL	Units	Dii	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-03	(MW-3-W-080410)		V	Vater		S	ampled:	04/10/08 16	:50			
Arsenic		EPA 6010B	ND		0.100	mg/l	1x	8D14042	04/14/08 15:31	04/15/08 15:55	WAS	
Barium		"	0.429		0.0500			"	"	"	WAS	
Cadmium		"	ND		0.00500		"	"	"		WAS	
Chromium		"	ND		0.0100		"		"	"	WAS	
Lead		"	0.0760		0.0500			"	"	"	WAS	
Mercury		EPA 7470A	ND		0.000200			8D15026	04/15/08 10:25	04/15/08 14:38	WAS	
Selenium		EPA 6010B	ND		0.150		"	8D14042	04/14/08 15:31	04/15/08 15:55	WAS	
Silver		"	ND		0.0100		"	"	"	"	WAS	

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 acc
 211815 (410 Driveway)

 aber:
 45505

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	EDB and DBCP by EPA Method 8011 TestAmerica Seattle											
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-03	(MW-3-W-080410)		١	Water			Sampled	l: 04/10/08 1	6:50			
1,2-Dibromoetha	ine (EDB)	EPA 8011M	0.010		0.010	ug/l	1x	8D15016	04/15/08 09:10	04/15/08 23:55	gma	

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### Arcadis, Geraghty, & Miller - Seattle

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Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

anager: 45505 Greg Montgomery

211815 (410 Driveway)

Report Created: 06/13/08 14:35

#### Volatile Organic Compounds by EPA Method 8260B TestAmerica Seattle

									,	
Analyte	Method	Result MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-03 (MW-3-V	V-080410)	Water		1	Sampled	l: 04/10/08 1	6:50			
Carbon tetrachloride	EPA 8260B	ND	1.00	ug/l	1x	8D15022	04/15/08 08:30	04/15/08 16:35	EC	
1,1-Dichloroethane	"	ND	1.00	"	"	"		"	EC	
1,2-Dichloroethane	"	10.2	1.00	"	"	"	"	"	EC	
Tetrachloroethene	"	ND	1.00	"	"	"	"	"	EC	
1,1,1-Trichloroethane	"	ND	1.00	"	"	"	"	"	EC	
Trichloroethene	"	2.33	1.00	"	"	"	"	"	EC	
Surrogate(s): 1,2-DCA	-d4	90.4%		70	130 %	"			"	
Toluene-	d8	96.8%		75 - 1	125 %	"			"	
4-BFB		103%		75 - 1	125 %	"			"	

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#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

211815 (410 Driveway) 45505 Greg Montgomery

Report Created:

06/13/08 14:35

	Polynu	iclear Ar	omatio Tes	<b>c Hydro</b> stAmerica	carbon Seattle	ns by C	GC/MS-S	IM			
Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Analyst	Notes
BRD0184-03 (MW-3-W-080410)		v	Water		:	Sampled	l: 04/10/08 1	6:50			
Acenaphthene	EPA 8270C-SIM	ND		0.0990	ug/l	1x	8D15014	04/15/08 09:04	04/21/08 20:08	BAT	
Acenaphthylene	"	ND		0.0990					"	BAT	
Anthracene	"	ND		0.0990		"			"	BAT	
Benzo (a) anthracene	"	ND		0.0990	"	"	"	"	"	BAT	
Benzo (a) pyrene	"	ND		0.0990	"	"	"	"	"	BAT	
Benzo (b) fluoranthene	"	ND		0.0990	"	"	"	"	"	BAT	
Benzo (k) fluoranthene	"	ND		0.0990	"	"	"	"	"	BAT	
Benzo (ghi) perylene	"	ND		0.0990	"	"	"	"	"	BAT	
Chrysene	"	ND		0.0990	"	"	"	"	"	BAT	
Dibenz (a,h) anthracene	"	ND		0.0990	"	"	"	"	"	BAT	
Fluoranthene	"	ND		0.0990	"		"	"	"	BAT	
Fluorene	"	1.19		0.0990		"			"	BAT	
Indeno (1,2,3-cd) pyrene	"	ND		0.0990	"		"	"	"	BAT	
1-Methylnaphthalene	"	36.7		0.0990			"	"	"	BAT	
Phenanthrene	"	1.25		0.0990	"	"	"	"	"	BAT	
Pyrene	"	ND		0.0990		"		"	"	BAT	
Surrogate(s): p-Terphenyl-d14			82.2%	i	20 -	131 %	"			"	

BRD0184-03RE1	(MW-3-W-080410)	V	Vater		Sa	mpled: 0	4/10/08 16:5	50		
2-Methylnaphthalene	EPA 8270	0C-SIM <b>40.2</b>		0.990	ug/l	10x	8D15014	04/15/08 09:04	04/25/08 14:44	BAT
Naphthalene	"	112		0.990	"	"		"	"	BAT
Surrogate(s) n	Ternhenvl-d14		78.0%		20 - 131	% "			"	

Surrogate(s): p-Terphenyl-d14

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





Arcadis, Geraghty, & Miller - Seattle	Project Name:	211815 (410 Driveway)	
2300 Eastlake Avenue East, Suite 100	Project Number:	45505	Report Created:
Seattle, WA/USA 98102	Project Manager:	Greg Montgomery	06/13/08 14:35
Gasoline Range Hydrocarbons (n-H	exane to <n-decane) b<="" th=""><th>y AK101 - Laboratory Quality Control Results</th><th></th></n-decane)>	y AK101 - Laboratory Quality Control Results	
(	TestAmerica Seatt	tle	

QC Batch: 8D17046	Water	Preparation	n Method: 1	EPA 5030B	(P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8D17046-BLK1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x							04/17/08 14:19	
Surrogate(s): 4-BFB (FID)		Recovery:	88.8%	Lin	nits: 60-120%	"							04/17/08 14:19	
LCS (8D17046-BS1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	957		50.0	ug/l	1x		1000	95.7%	(60-120)			04/17/08 14:52	
Surrogate(s): 4-BFB (FID)		Recovery:	95.5%	Lin	nits: 60-120%	"							04/17/08 14:52	
LCS Dup (8D17046-BSD1)								Ext	racted:	04/17/08 13	:00			
Gasoline Range Hydrocarbons	AK 101	899		50.0	ug/l	1x		1000	89.9%	(60-120)	6.30%	6 (20)	04/17/08 15:25	
Surrogate(s): 4-BFB (FID)		Recovery:	94.9%	Lin	nits: 60-120%	"							04/17/08 15:25	
Duplicate (8D17046-DUP1)				QC Source:	BRD0183-04			Ext	racted:	04/17/08 15	:51			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	ND				NR	(20)	04/17/08 17:48	
Surrogate(s): 4-BFB (FID)		Recovery:	84.2%	Lin	nits: 60-120%	"							04/17/08 17:48	
Duplicate (8D17046-DUP2)				QC Source:	BRD0183-05			Ext	racted:	04/17/08 15	:51			
Gasoline Range Hydrocarbons	AK 101	558		50.0	ug/l	1x	548				1.78%	6 (20)	04/17/08 18:54	
Surrogate(s): 4-BFB (FID)		Recovery:	97.0%	Lin	nits: 60-120%	"							04/17/08 18:54	
Matrix Spike (8D17046-MS1)				QC Source:	BRD0183-04			Ext	racted:	04/17/08 15	:51			
Gasoline Range Hydrocarbons	AK 101	1110		50.0	ug/l	1x	ND	1000	111%	(60-120)			04/17/08 19:26	
Surrogate(s): 4-BFB (FID)		Recovery:	94.5%	Lin	nits: 60-120%	"							04/17/08 19:26	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





Arcadis, Geraghty, & Miller	- Seattle		Р	roject Nam	ne:	211815	(410 Dri	veway	)					
2300 Eastlake Avenue East, Sui	te 100		Р	roject Nun	nber:	45505							Report Creat	ed:
Seattle, WA/USA 98102			Р	roject Man	ager:	Greg Mo	ontgomery	r					06/13/08 14	:35
Gasoline	e Range Hyd	rocarbons	(n-Hexane to	<n-deca< td=""><td>ane) by</td><td>AK101</td><td>- Labor</td><td>atory (</td><td>Quali</td><td>ty Conti</td><td>rol Re</td><td>sults</td><td></td><td></td></n-deca<>	ane) by	AK101	- Labor	atory (	Quali	ty Conti	rol Re	sults		
			Т	estAmerio	ca Seattle									
QC Batch: 8D21031	Water	Preparation	Method: EP	PA 5030B	(P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D21031-BLK1)								Extr	acted:	04/21/08 12	2:29			
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x						(	04/21/08 12:55	
Surrogate(s): 4-BFB (FID)		Recovery:	87.7%	Lin	uits: 60-120	% "							04/21/08 12:55	

LCS (8D21031-BS1)								Exti	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	980		50.0	ug/l	1x		1000	98.0%	(60-120)		04/21/08 13:28	
Surrogate(s): 4-BFB (FID)		Recovery:	94.5%	Lin	nits: 60-120	% "						04/21/08 13:28	
LCS Dup (8D21031-BSD1)								Exti	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	1000		50.0	ug/l	1x		1000	100%	(60-120)	2.26% (20)	04/21/08 14:01	
Surrogate(s): 4-BFB (FID)		Recovery:	94.9%	Lin	nits: 60-120	% "						04/21/08 14:01	
Duplicate (8D21031-DUP1)				QC Source:	BRD0280	-02		Exti	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	ND		50.0	ug/l	1x	ND				NR (20)	04/21/08 16:21	
Surrogate(s): 4-BFB (FID)		Recovery:	89.6%	Lin	nits: 60-120	% "						04/21/08 16:21	
Duplicate (8D21031-DUP2)				QC Source:	BRD0183	-01RE1		Exti	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	442		50.0	ug/l	1x	455				2.81% (20)	04/22/08 01:14	
Surrogate(s): 4-BFB (FID)		Recovery:	146%	Lin	nits: 60-120	% "						04/22/08 01:14	Z
Matrix Spike (8D21031-MS1)				QC Source:	BRD0280	-02		Ext	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	1170		50.0	ug/l	1x	ND	1000	117%	(60-120)		04/21/08 16:54	
Surrogate(s): 4-BFB (FID)		Recovery:	95.8%	Lin	nits: 60-120	% "						04/21/08 16:54	
Matrix Spike Dup (8D21031-MS	D1)			QC Source:	BRD0280	-02		Exti	racted:	04/21/08 12	:29		
Gasoline Range Hydrocarbons	AK 101	1140		50.0	ug/l	1x	ND	1000	114%	(60-120)	2.23% (20)	04/21/08 17:27	
Surrogate(s): 4-BFB (FID)		Recovery:	96.5%	Lin	nits: 60-120	% "						04/21/08 17:27	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager



#### Arcadis, Geraghty, & Miller - Seattle 2300 Eastlake Avenue East, Suite 100

Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

e: **211815 (410 Driveway)** ber: 45505 ager: Greg Montgomery

Report Created: 06/13/08 14:35

#### Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D14014	Water	Preparation	n Method: El	PA 35200	2									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spiko Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8D14014-BLK1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	ND		0.100	mg/l	1x							04/15/08 22:32	
Residual Range Organics	"	ND		0.750	"									
Surrogate(s): 2-FBP Octacosane		Recovery:	70.4% 76.9%	Li	mits: 50-150% 50-150%	"							04/15/08 22:32 "	
LCS (8D14014-BS1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	1.75		0.100	mg/l	1x		2.00	87.4%	(75-125)			04/15/08 22:57	
Residual Range Organics	"	1.59		0.750	"			"	79.5%	(60-120)			"	
Surrogate(s): 2-FBP Octacosane		Recovery:	86.5% 83.1%	Li	mits: 50-150% 50-150%	"							04/15/08 22:57 "	
LCS Dup (8D14014-BSD1)								Ext	racted:	04/14/08 09	:27			
Diesel Range Hydrocarbons	AK102_103	1.81		0.100	mg/l	1x		2.00	90.3%	(75-125)	3.25%	6 (20)	04/15/08 23:23	
Residual Range Organics	"	1.66		0.750	"	"		"	82.9%	(60-120)	4.20%	ó "	"	
Surrogate(s): 2-FBP Octacosane		Recovery:	86.0% 86.0%	Li	mits: 50-150% 50-150%	"							04/15/08 23:23 "	

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### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

BTEX by EPA Method 8021B - Laboratory Quality Control Results

211815 (410 Driveway) 45505

Greg Montgomery

Report Created: 06/13/08 14:35

	TestAmerica Seattle													
QC Batch: 8D17046	Water 1	Preparation	n Method: E	PA 5030B	(P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spiko Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D17046-BLK1)								Ext	racted:	04/17/08 13	3:00			
Benzene	EPA 8021B	ND		0.500	ug/l	1x							04/17/08 14:19	
Toluene	"	ND		0.500	"	"								
Ethylbenzene	"	ND		0.500	"	"								
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (PID)		Recovery:	98.6%	Lin	nits: 68-140	)% "							04/17/08 14:19	
LCS (8D17046-BS2)								Ext	racted:	04/17/08 13	3:00			
Benzene	EPA 8021B	29.7		0.500	ug/l	1x		30.0	99.1%	(80-120)			04/17/08 15:57	
Toluene	"	29.3		0.500	"	"		"	97.6%				"	
Ethylbenzene	"	29.2		0.500	"	"		"	97.3%					
Xylenes (total)	"	90.1		1.00	"	"		90.0	100%					
Surrogate(s): 4-BFB (PID)		Recovery:	99.1%	Lin	nits: 68-140	)% "							04/17/08 15:57	
LCS Dup (8D17046-BSD2)								Ext	racted:	04/17/08 13	3:00			
Benzene	EPA 8021B	28.5		0.500	ug/l	1x		30.0	95.1%	(80-120)	4.08%	6 (25)	04/17/08 16:30	
Toluene	"	28.0		0.500	"	"		"	93.3%		4.51%	. "		
Ethylbenzene	"	27.8		0.500	"	"		"	92.6%		4.92%	. "		
Xylenes (total)	"	86.2		1.00	"	"		90.0	95.8%		4.40%	. "		
Surrogate(s): 4-BFB (PID)		Recovery:	99.2%	Lin	nits: 68-140	)% "							04/17/08 16:30	
Duplicate (8D17046-DUP1)				QC Source:	BRD0183	-04		Ext	racted:	04/17/08 15	5:51			
Benzene	EPA 8021B	ND		0.500	ug/l	1x	ND				NR	(25)	04/17/08 17:48	
Toluene	"	ND		0.500	"	"	ND				NR	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"		
Xylenes (total)	"	ND		1.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (PID)		Recovery:	101%	Lin	nits: 68-140	)% "							04/17/08 17:48	
Duplicate (8D17046-DUP2)				QC Source:	BRD0183	-05		Ext	racted:	04/17/08 15	5:51			
Benzene	EPA 8021B	89.0		0.500	ug/l	1x	89.0				0.0090	0 (25)	04/17/08 18:54	
Toluene	"	1.24		0.500	"	"	1.26				1.04%	5 "	"	
Ethylbenzene	"	4.57		0.500	"	"	4.56				0.329%	6 "	"	
Xylenes (total)	"	21.9		1.00	"	"	22.3				1.94%	, " )	"	

Surrogate(s): 4-BFB (PID)

Recovery: 102%

Limits: 68-140% "

04/17/08 18:54

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### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**211815 (410 Driveway)** ber: 45505

Greg Montgomery

Report Created: 06/13/08 14:35

	B	FEX by El	PA Method	<b>8021B -</b> TestAmeri	Laborato ica Seattle	ory Qua	ality Con	trol R	esults					
QC Batch: 8D17046	Water 1	Preparation	n Method:	EPA 5030E	<b>B</b> (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Matrix Spike (8D17046-MS2)				QC Source	: BRD0183-	05		Ext	racted:	04/17/08 1	5:51			
Benzene	EPA 8021B	124		0.500	ug/l	1x	89.0	30.0	116%	(46-130)			04/18/08 02:30	M3
Toluene	"	32.3		0.500	"		1.26	"	103%	(60-124)			"	
Ethylbenzene	"	36.4		0.500	"		4.56	"	106%	(56-141)			"	
Xylenes (total)		122		1.00	"	"	22.3	90.0	110%	(66-132)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	104%	Li	mits: 68-1409	% "							04/18/08 02:30	
QC Batch: 8D21031	Water 1	Preparation	n Method:	EPA 5030E	<b>B</b> (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spiko Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8D21031-BLK1)								Ext	racted:	04/21/08 12	2:29			
Benzene	EPA 8021B	ND		0.500	ug/l	1x							04/21/08 12:55	
Toluene		ND		0.500	"								"	
Ethylbenzene		ND		0.500	"								"	
Xylenes (total)		ND		1.00	"	"								
Surrogate(s): 4-BFB (PID)		Recovery:	99.4%	Li	mits: 68-1409	% "							04/21/08 12:55	
LCS (8D21031-BS2)								Ext	racted:	04/21/08 12	2:29			
Benzene	EPA 8021B	30.2		0.500	ug/l	1x		30.0	101%	(80-120)			04/21/08 14:34	
Toluene	"	29.7		0.500	"			"	98.9%	"			"	
Ethylbenzene		29.8		0.500	"			"	99.3%	"			"	
Xylenes (total)		91.8		1.00	"	"		90.0	102%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	98.8%	Li	mits: 68-1409	% "							04/21/08 14:34	
LCS Dun (8D21031-BSD2)								Ext	racted:	04/21/08 12	2:29			
Benzene	EPA 8021B	28.8		0.500	ug/1	1x		30.0	96.1%	(80-120)	4 66%	(25)	04/21/08 15:07	
Toluene	"	28.7		0.500	"			"	95.6%	"	3.419	6 "	"	
Ethylbenzene		28.4		0.500	"			"	94 7%		4 729	6 "		
Xylenes (total)		87.8		1.00	"			90.0	97.5%		4 539	6 "		
Surrogate(s): 4-BFB (PID)		Recovery:	98.6%	Li	mits: 68-1409	% "			,,.				04/21/08 15:07	
Duplicate (8D21031 DUP1)				OC Source	· BRD0280-	02		Fxt	racted	04/21/08 12	7.79			
Benzene	EPA 8021P	ND		0.500	. DRD0200-	1v	ND	EAU			0 300	(25)	04/21/08 16:21	
Taluene	LIA 0021D	ND		0.500	ug/1	"	ND				7.307 ND	" (23)	"	
Ethylbenzene		ND		0.500			ND				27 00	6 "		D4
Xylenes (total)		ND		1.00	"		1 12				21.37	6 "		R4 ₽4
			1000/	1.00			1.12				20.07	•	04/01/00 16:01	
Surrogate(s): 4-BFB (PID)		Recovery:	100%	Li	mits: 68-1409	<i>'o</i> "							04/21/08 16:21	

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2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

211815 (410 Driveway) her: 45505

Greg Montgomery

Report Created: 06/13/08 14:35

#### BTEX by EPA Method 8021B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D21031 Water Preparation Method: EPA 5030B (P/T) <sup>%</sup> (Limits) Source Spike % RPD Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Duplicate (8D21031-DUP2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 EPA 8021B 0 751 04/22/08 01:14 Benzene 0.500 0.813 7.93% (25) --ug/l 1x ---------Toluene .. ND 0.500 ND 21.4% .. ------.. 6.84 0.500 ... 7.30 6.48% ., Ethylbenzene -----------.. 1.00 .. .. 6.43% " ... Xvlenes (total) 24.6 26.2 ------------" 04/22/08 01:14 Surrogate(s): 4-BFB (PID) Recovery: 121% Limits: 68-140% Matrix Spike (8D21031-MS2) QC Source: BRD0183-01RE1 Extracted: 04/21/08 12:29 EPA 8021B 33.1 04/21/08 18:00 Benzene 0.500 ug/l 0.813 30.0 108% (46-130) ----1x ------., Toluene 30.7 0.500 0.145 102% (60-124)---------" .. ., Ethylbenzene 38.4 0.500 7.30 104% (56-141) ---------.. .. 117 1.00 (66-132) ... Xylenes (total) 26.2 90.0 101% ----------" 04/21/08 18:00 Surrogate(s): 4-BFB (PID) 119% Limits: 68-140% Recovery:

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#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**211815 (410 Driveway)** 45505

Greg Montgomery

Report Created: 06/13/08 14:35

#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D14042 Water Preparation Method: EPA 3010A Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes (Limits) RPD REC Result Amt Blank (8D14042-BLK1) Extracted: 04/14/08 15:31 EPA 6010B 04/15/08 15:24 Cadmium ND 0.00500 --mg/l 1x ---\_ ---\_\_\_ ---.. ND 0.0500 ., Lead ---------.. ... ND 0.100 Arsenic ----------------.. ... ND 0.150 Selenium -----------------.. .. Chromium ND 0.0100 ------------.. Silver .. ND 0.0100 .. 0.0500 ... Barium ND ---LCS (8D14042-BS1) Extracted: 04/14/08 15:31 Silver EPA 6010B 1.05 0.0100 1x 1.00 105% (79-122) 04/15/08 15:38 mg/l Selenium " 5.22 0.150 ... .. 5.00 104% (80-120) ... .. ... 107% Arsenic 5.33 ----0.100 ---------" Barium 5.28 \_\_\_\_ 0.0500 ---106% ---.. 5.23 0.00500 .. 105% .. Cadmiun Chromium ... 5.29 0.0100 ... 106% ... ---------5 24 0.0500 105% Lead ---------Duplicate (8D14042-DUP1) OC Source: BRD0183-05 Extracted: 04/14/08 15:31 Cadmium EPA 6010B ND 0.00500 1x ND NR (20) 04/15/08 15:45 mg/l --------.. .. 0 100 ND Arsenic ND ---" ... Barium 0.268 0.0500 0.252 \_\_\_ 6.03% (25) ---., ND 0.0100 .. ND Chromium \_\_\_ NR (20) .. ... NR ., ND 0.150 ND Selenium ---------.. ., 0.0500 0.0599 Lead 0.0639 ---6.46% ------Silver ND 0.0100 ND NR (40) ---Matrix Spike (8D14042-MS1) QC Source: BRD0183-05 Extracted: 04/14/08 15:31 EPA 6010B 04/15/08 15:41 104% (80-120)Selenium 5.19 ---0.150 mg/l 1x ND 5.00 -----Chromium 5.01 0.0100 ND 100% ., .. ., .. Barium 5.37 0.0500 0.252 102% (60-136) ... 0.0100 ... ... 0.998 ND 1.00 99.8% Silver (78 - 125)---------... Arsenic 5 30 ---0.100 ND 5.00 106% (80-120)-----

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Lead

Cadmium

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0.0500

0.00500

0.0599

ND

96.8%

102%

4.90

5.12



# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**211815 (410 Driveway)** r: 45505

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#### Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8D14042	Water P	reparation M	ethod: EP	A 3010A									
Analyte	Method	Result	MDL*	MRL Units	Dil	Source Result	Spike Amt	REC	(Limits)	% RPD	(Limit	s) Analyzed	Notes
Post Spike (8D14042-PS1)				QC Source: BRD018	33-05		Ext	racted:	04/14/08 15	:31			
Silver	EPA 6010B	1.01		ug/ml	1x	-0.00420	1.00	101%	(75-125)			04/15/08 15:48	
Lead	"	4.99		"	"	0.0599	5.00	98.6%	"				
Arsenic	"	5.28		"	"	0.00970	"	105%	"				
Barium	"	5.30		"	"	0.252	"	101%	"				
Cadmium	"	5.12		"	"	0.000100	"	102%	"				
Chromium	"	5.04		"	"	0.000600	"	101%				"	

QC Batch: 8D15026	Water F	Preparation M	ethod: E	PA 7470A										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt F	% REC	(Limits)	%∧ RPD	(Limits)	Analyzed	Notes
Blank (8D15026-BLK1)								Extrac	ted:	04/15/08 10	:25			
Mercury	EPA 7470A	ND		0.000200	mg/l	1x							04/15/08 14:05	
LCS (8D15026-BS1)								Extrac	ted:	04/15/08 10	:25			
Mercury	EPA 7470A	0.00525		0.000200	mg/l	1x		0.00500 1	105%	(80-120)			04/15/08 14:07	
LCS Dup (8D15026-BSD1)								Extrac	ted: (	04/15/08 10	:25			
Mercury	EPA 7470A	0.00527		0.000200	mg/l	1x		0.00500 1	105%	(80-120)	0.430%	6 (20)	04/15/08 14:10	
Duplicate (8D15026-DUP1)				QC Source:	BRD0123-	-01		Extrac	ted:	04/15/08 10	:25			
Mercury	EPA 7470A	ND		0.000200	mg/l	1x	ND				69.9%	(20)	04/15/08 14:30	R4
Matrix Spike (8D15026-MS1)				QC Source:	BRD0123-	-01		Extrac	ted:	04/15/08 10	:25			
Mercury	EPA 7470A	0.00493		0.000200	mg/l	1x	0.0000643	0.00500 9	7.3%	(75-125)			04/15/08 14:28	

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### Arcadis, Geraghty, & Miller - Seattle

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**211815 (410 Driveway)** r: 45505

Greg Montgomery

Report Created: 06/13/08 14:35

#### EDB and DBCP by EPA Method 8011 - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 8D15016 Water Preparation Method: Solvent Extraction REC (Limits) RPD Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes Result Amt Blank (8D15016-BLK1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M ND 0.010 1x 04/15/08 19:54 --------ug/l ------LCS (8D15016-BS1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.053 0.010 1x 0.0500 105% (80-120) 04/15/08 20:18 ug/l ------------Extracted: 04/15/08 09:10 LCS (8D15016-BS4) 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.051 ---0.010 ug/l 1x ---0.0500 102% (80-120) 04/17/08 18:51 LCS (8D15016-BS5) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) [2C] EPA 8011M 0.104 0.010 1x 0.100 104% 04/17/08 20:03 ---ug/l ---(80-120) ------LCS (8D15016-BS9) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.046 0.010 1x 0.0500 92.3% (80-120) 04/24/08 17:02 --ug/l Extracted: 04/15/08 09:10 LCS (8D15016-BSA) 1,2-Dibromoethane (EDB) EPA 8011M 0.100 83.5% 04/24/08 19:03 0.083 ----0.010 ug/l 1x---(80-120) --LCS Dup (8D15016-BSD1) Extracted: 04/15/08 09:10 1,2-Dibromoethane (EDB) EPA 8011M 0.051 0.010 1x 0.0500 103% (80-120) 2.46% (20) 04/15/08 20:42 ------ug/l

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**211815 (410 Driveway)** er: 45505

Greg Montgomery

Report Created: 06/13/08 14:35

## Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8D15022	Water P	reparation M	ethod: EP	A 5030B										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D15022-BLK1)								Extr	acted:	04/15/08 09	:30			
Acetone	EPA 8260B	ND		20.0	ug/l	1x							04/15/08 12:01	
Benzene		ND		1.00		"							"	
Bromobenzene	"	ND		1.00	"								"	
Bromochloromethane	"	ND		1.00	"								"	
Bromodichloromethane	"	ND		1.00									"	
Bromoform	"	ND		1.00									"	
Bromomethane	"	ND		2.00	"								"	
2-Butanone		ND		10.0		"							"	
n-Butylbenzene		ND		1.00									"	
sec-Butylbenzene		ND		1.00									"	
tert-Butylbenzene		ND		1.00									"	
Carbon disulfide		ND		1.00									"	
Carbon tetrachloride		ND		1.00									"	
Chlorobenzene		ND		1.00									"	
Chloroethane		ND		1.00									"	
1-Chlorohexane		ND		1.00									"	
Chloroform		ND		1.00									"	
Chloromethane		ND		5.00									"	
2-Chlorotoluene		ND		1.00									"	
4-Chlorotoluene		ND		1.00									"	
Dibromochloromethane		ND		1.00									"	
1,2-Dibromo-3-chloropropane		ND		5.00									"	
1,2-Dibromoethane		ND		1.00									"	
Dibromomethane		ND		1.00									"	
1,2-Dichlorobenzene		ND		1.00									"	
1,3-Dichlorobenzene		ND		1.00									"	
1,4-Dichlorobenzene		ND		1.00									"	
Dichlorodifluoromethane	"	ND		1.00	"								"	L
1,1-Dichloroethane		ND		1.00									"	
1,2-Dichloroethane		ND		1.00									"	
cis-1,2-Dichloroethene		ND		1.00									"	
trans-1,2-Dichloroethene		ND		1.00									"	
1,2-Dichloropropane		ND		1.00									"	
1,3-Dichloropropane		ND		1.00	"								"	
2,2-Dichloropropane		ND		1.00	"								"	
1,1-Dichloropropene		ND		1.00	"								"	
cis-1,3-Dichloropropene		ND		1.00									"	
trans-1,3-Dichloropropene	"	ND		1.00									"	
Ethylbenzene		ND		1.00									"	

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Greg Montgomery

Report Created: 06/13/08 14:35

### Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle QC Batch: 8D15022 Water Preparation Method: EPA 5030B Source Spike 0/ Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes (Limits) RPD REC Result Amt Blank (8D15022-BLK1) Extracted: 04/15/08 09:30 EPA 8260B 04/15/08 12:01 ND 5.00 Hexachlorobutadiene --ug/l 1x ---\_ \_\_\_ ---Methyl tert-butyl ether ND 2.00 .... ---.. ... n-Hexane ND 2.00 ---------.. ... ND 2-Hexanone 10.0 -----------------.. Isopropylbenzene ND 1.00 ------------.. p-Isopropyltoluene ND 1.00 4-Methyl-2-pentanone ND 10.0 ---------Methylene chloride ND 5.00 -------------Naphthalene ND 5.00 -------n-Propylbenzene ND 1.00 ---Styrene ND 1.00 -----------1,2,3-Trichlorobenzene ND 5.00 --------------в ---1,2,4-Trichlorobenzene ND 5.00 \_\_\_ \_\_\_ \_\_\_ ---1,1,1,2-Tetrachloroethane ND 1.00 ---1122-Tetrachloroethane ND 1.00 -----------Tetrachloroethene ND 1.00 ------\_\_\_\_ ---ND 1.00 Toluene ---------ND .. 1.00 1.1.1-Trichloroethane \_\_\_\_ ---------------.. 1.1.2-Trichloroethane ND 1.00 ---------Trichloroethene ND 1.00 ---Trichlorofluoromethane ND 1.00 ---ND 1.00 1,2,3-Trichloropropane -----------------1,2,4-Trimethylbenzene ND 1.00 ---1,3,5-Trimethylbenzene ND 1.00 Vinyl chloride 1.00 ND -----------o-Xylene ND ---1.00 ------------m,p-Xylene ND 2.00 \_\_\_ ------" .. .. Total Xylenes ND 3.00 ------1,2-DCA-d4 Limits: 70-130% " 04/15/08 12:01 Surrogate(s): 95.4% Recovery: Toluene-d8 98.4% 75-125% 4-BFB 99.4% 75-125%

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211815 (410 Driveway) ber: 45505

Greg Montgomery

Report Created: 06/13/08 14:35

# Volatile Organic Compounds by EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Seattle

QC Bate	h: 8D15022	Water I	Preparation	Method: I	EPA 5030B										
Analyte		Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8D15022	2-BS1)								Extr	acted:	04/15/08 09	9:30			
Benzene		EPA 8260B	38.1		1.00	ug/l	1x		40.0	95.3%	(80-120)			04/15/08 10:58	
Chlorobenzene		"	39.3		1.00	"	"		"	98.2%	"				
Methyl tert-butyl eth	er	"	34.8		2.00	"	"		"	87.0%	(75-126)				
Toluene		"	38.4		1.00	"	"		"	95.9%	(75-125)				
Trichloroethene		"	38.2		1.00	"	"		"	95.5%	"				
Total Xylenes		"	116		3.00	"			120	96.5%	"				
Surrogate(s):	1,2-DCA-d4		Recovery:	96.4%	Lin	nits: 70-130%	"							04/15/08 10:58	
	Toluene-d8			97.7%		75-125%	"							"	
	4-BFB			100%		75-125%	"							"	
LCS Dup (8D	15022-BSD1)								Extr	acted:	04/15/08 09	9:30			
Benzene		EPA 8260B	38.2		1.00	ug/l	1x		40.0	95.4%	(80-120)	0.0787	% (20)	04/15/08 11:25	
Chlorobenzene		"	40.2		1.00	"			"	100%	"	2.27%	6 "		
Methyl tert-butyl eth	er	"	35.4		2.00		"		"	88.4%	(75-126)	1.54%	6 "		
Toluene		"	39.8		1.00	"			"	99.6%	(75-125)	3.73%	6 "	"	
Trichloroethene		"	38.3		1.00	"			"	95.7%	"	0.157	% "		
Total Xylenes		"	118		3.00	"			120	98.3%		1.80%	6 "	"	
Surrogate(s):	1,2-DCA-d4		Recovery:	97.8%	Lin	nits: 70-130%	"							04/15/08 11:25	
	Toluene-d8			98.8%		75-125%	"							"	
	4-BFB			102%		75-125%	"							"	

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Page 25 of 28



# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

**211815 (410 Driveway)** 45505 Greg Montgomery

Report Created: 06/13/08 14:35

#### Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 8D15014	Water F	Preparation N	Method: EP	PA 3520C										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8D15014-BLK2)								Extr	acted:	04/15/08 09	:04			
Acenaphthene	EPA 8270C-SIM	ND		0.100	ug/l	1x							04/21/08 14:17	
Acenaphthylene	"	ND		0.100	"	"							"	
Anthracene	"	ND		0.100		"							"	
Benzo (a) anthracene	"	ND		0.100	"	"							"	
Benzo (a) pyrene	"	ND		0.100	"	"							"	
Benzo (b) fluoranthene	"	ND		0.100	"								"	
Benzo (k) fluoranthene	"	ND		0.100	"								"	
Benzo (ghi) perylene	"	ND		0.100		"							"	
Chrysene	"	ND		0.100		"							"	
Dibenz (a,h) anthracene	"	ND		0.100		"							"	
Fluoranthene	"	ND		0.100		"							"	
Fluorene	"	ND		0.100									"	
Indeno (1,2,3-cd) pyrene	"	ND		0.100									"	
1-Methylnaphthalene	"	ND		0.100									"	
2-Methylnaphthalene	"	ND		0.100									"	
Naphthalene	"	ND		0.100									"	
Phenanthrene	"	ND		0.100									"	
Pyrene	"	ND		0.100		"							"	
Surrogate(s): p-Terphenyl-d14		Recovery: 9	90.9%	Lin	uits: 20-131%	"							04/21/08 14:1	7
LCS (8D15014-BS2)								Extr	acted:	04/15/08 09	:04			
Acenaphthene	EPA 8270C-SIM	16.0		0.100	ug/l	1x		20.0	80.1%	(68-129)			04/25/08 16:20	
Acenaphthylene	"	16.5		0.100	"	"		"	82.5%	(77-129)			"	
Anthracene	"	18.6		0.100	"	"		"	93.0%	(80-146)			"	
Benzo (a) anthracene	"	16.0		0.100		"		"	79.9%	(73-120)			"	
Benzo (a) pyrene	"	17.4		0.100	"	"		"	87.2%	(70-132)				

TestAmerica Seattle

Benzo (b) fluoranthene

Benzo (k) fluoranthene

Benzo (ghi) perylene

Dibenz (a,h) anthracene

Indeno (1,2,3-cd) pyrene

1-Methylnaphthalene

2-Methylnaphthalene

Chrysene

Fluorene

Fluoranthene

Naphthalene

Phenanthrene

Carlenny

The results in this report apply to the samples analyzed in accordance with the chain

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83.7%

90.9%

83.7%

92.6%

85.1%

89.7%

83.8%

81.5%

69.4%

67.4%

67.1%

(68-148)

(63-150)

(46-142)

(80-132)

(56-138)

(79-138)

(42-120)

(53-136)

(41 - 120)

(43-122)

(38-128)

84.0% (77-123)

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

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13.5

13.4

16.8

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# Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102

Project Name: Project Number: Project Manager:

211815 (410 Driveway) 45505 Greg Montgomery

Report Created: 06/13/08 14:35

# Polynuclear Aromatic Hydrocarbons by GC/MS-SIM - Laboratory Quality Control Results

QC Batch: 8D15014	Water	Preparation	Method:	EPA 3520C										
Analyte	Method	Result	MDL	* MRL	Units	Dil	Source Result	Spike Amt	%∧ REC	(Limits)	%∧ RPD	(Limits)	Analyzed	Notes
LCS (8D15014-BS2)								Extr	acted:	04/15/08 09	:04			
Pyrene	EPA 8270C-SIM	18.0		0.100	ug/l	1x		20.0	89.9%	(60-150)			04/25/08 16:20	
Surrogate(s): p-Terphenyl-d14		Recovery:	84.6%	Lin	nits: 20-131	% "							04/25/08 16:20	
LCS Dup (8D15014-BSD2)								Extracted: 04/15/08 09:04						
Acenaphthene	EPA 8270C-SIM	15.6		0.100	ug/l	1x		20.0	77.9%	(68-129)	2.78%	(30)	04/25/08 16:51	
Acenaphthylene	"	16.0		0.100	"			"	80.2%	(77-129)	2.83%			
Anthracene	"	18.3		0.100	"			"	91.3%	(80-146)	1.84%			
Benzo (a) anthracene	"	15.4		0.100	"	"		"	77.2%	(73-120)	3.44%			
Benzo (a) pyrene	"	17.2		0.100	"	"		"	86.1%	(70-132)	1.27%			
Benzo (b) fluoranthene	"	18.3		0.100	"	"		"	91.4%	(68-148)	8.79%			
Benzo (k) fluoranthene	"	16.1		0.100	"	"		"	80.6%	(63-150)	12.0%			
Benzo (ghi) perylene	"	16.4		0.100	"	"		"	81.8%	(46-142)	2.30%			
Chrysene	"	18.0		0.100	"	"		"	89.8%	(80-132)	3.07%			
Dibenz (a,h) anthracene	"	16.7		0.100	"	"		"	83.7%	(56-138)	1.66%			
Fluoranthene	"	17.4		0.100	"	"		"	87.1%	(79-138)	2.94%			
Fluorene	"	16.5		0.100	"	"		"	82.3%	(42-120)	1.81%			
Indeno (1,2,3-cd) pyrene	"	16.0		0.100	"	"		"	80.1%	(53-136)	1.73%			
1-Methylnaphthalene	"	13.1		0.100	"			"	65.4%	(41-120)	5.93%			
2-Methylnaphthalene	"	12.6		0.100	"			"	63.2%	(43-122)	6.43%			
Naphthalene	"	12.5		0.100	"			"	62.6%	(38-128)	6.94%	"		
Phenanthrene	"	16.6		0.100	"			"	82.9%	(77-123)	1.32%	"	"	
Pyrene	"	17.7		0.100	"	"		"	88.6%	(60-150)	1.46%	"	"	
Surrogate(s): p-Terphenyl-d14		Recovery:	83.5%	Lin	nits: 20-131	% "							04/25/08 16:51	

Surrogate(s): p-Terphenyl-d14

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Curtis D. Armstrong For Blake T. Meinert, Project Manager





#### Arcadis, Geraghty, & Miller - Seattle

2300 Eastlake Avenue East, Suite 100 Seattle, WA/USA 98102 Project Name: Project Number: Project Manager:

45505

211815 (410 Driveway)

Greg Montgomery

Report Created: 06/13/08 14:35

#### Notes and Definitions

#### Report Specific Notes: В Analyte was detected in the associated Method Blank. L Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted. M3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS). O10 Hydrocarbon pattern most closely resembles a blend of gasoline and diesel. Q7 The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range. R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information. ZX Due to sample matrix effects, the surrogate recovery was outside the acceptance limits. Laboratory Reporting Conventions: Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only. DET ND Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). NR/NA Not Reported / Not Available Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet on a Wet Weight Basis. RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). MRL METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table. MDL\* METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. \_ \*MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results. Dil Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data. Reporting -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.

 Electronic
 - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.

 Signature
 Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.

 Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Curtis D. Armstrong For Blake T. Meinert, Project Manager

phone 425.420.9200 fax 425.420.9210																<u> </u>			TestAme	rica La	borator	ies, Inc.
Client Contact	Project Manager: Greg Montgomery					Site Contact: Mike Strickler					Da	Date: April 10, 2008				COC No:						
Arcadis						Lab	Conts	ect: E	Blake	Mei	nert		Ca	rrier:	Fed E	x				of	COCs	3
2300 Eastlake Ave East, Suite 200		Analysis T	urnaround	Time		Π	Τ												Job No.			
Seattle, WA 98102	Calendar	(C) or Wo	ork Days (W	/)																		
206-726-4742	T/	T if different	from Below									1470							000 11			
(xxx) xxx-xxxx FAX		2	2 weeks					8				010							SDG NO.			
Project Name: Facility # 211815		1 week				-	8260			Σ	PA 6											
Site: 401 Driveway			2 days			<u>ء</u> ا ب	802	<b>PA</b>		2 2	SIN	y El										
Project # Arcadis # 45505.001			1 day		-	lu l	EPA	by I	011		8270	l sa							<b>—</b> —	_		
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered S	BTEX by	Six VOCs	EDB by 8	DRO by /	RKU by PAHs by	Total Me							s	ample S	Specific N	lotes:
AR-81-W-080410	4/10/2008	1555		w	5	x	x			x x	(											-01
AR-85-W-080410	4/10/2008	1450		w	5	x	x			x x	(											-02
MW-3-W-080410	4/10/2008	1650		w	13	x	x	x	x	x x	x	x									-	-03
MW-7-W-080410	4/10/2008	1945		w	5	x	x			x x	(											-04
MW-8-W-080410	4/10/2008	2005		w	5	x	x			x x	<b>,</b>											-05
MW-9-W-080410	4/10/2008	2025		w	5	x	x			x x	<											-06
MW-10-W-080410	4/10/2008	2045		w	5	x	x			x x	<											-07
DUP-1-W-080410	4/10/2008	0800		w	5	x	x			x x	<											-08
QA-T-080410	4/10/2008	0600		w	3	x	x											<u> </u>	trip	6	lank	-09
														$\square$								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=N	aOH; 6= Oth	er				:	2 2	2	1	2	2	14										
Possible Hazard Identification	Poiso		Inknow	. 🗆		s	Samp	le Di Retu	i <b>spos</b> m Ta	<b>sal (</b> . o Clie	A fee ent	e may [	/ be au	<b>isesse</b> snosal	difs Bvla	<b>ampl</b> b	es are	retain J <sub>Archi</sub>	<b>ied longer t</b> ve For	nan 1	month) Months	
Non-Hazard Flammable Skin Irritant	Poiso ole – A reenic	Barium (	Unknow	n — Chromiu	m. Lea	l. Mei	rcurv	. Sel	eniun	n. Sil	ver		V	$C_{\rm S} = ($	Carbo	n Tet	rachor	ide, Te	trachoroeth	ene, tri	chloroeth	ene, 1,1-
dichloroethene, 1,1,1-trichloroethane, 1,2-dichloroethane, (1,2-D	CA)	,,	,		,																	
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														Ì				· · · -		50	ic W	lcs

Chain of Custody Record

BRDC184

## TestAmerica Seattle

11720 North Creek Parkway N

Suite 400

Bothell, WA 98011 phone 425.420.9200 fax 425.420.9210



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# ARCADIS

Appendix C

ADEC Data Review Checklists

# **Laboratory Data Review Checklist**

Completed by:	Mic	hael L. Strickler									
Title: Geolog	Citle:     Geologist I     Date:     Jun 13, 2008										
CS Report Name	CS Report Name: First Semi-Annual 2008 Groundwater Monitoring Report Report Date: Aug 13, 2008										
Consultant Firm	: AR	CADIS									
Laboratory Nam	Laboratory Name: TestAmerica Laboratory Report Number: BRD0184										
ADEC File Num	ber:	102.38.005	ADEC	RecKey Number:	19863	1011200	01				
1. Laboratory											
a. Dic • Y	l an A es	ADEC CS approved l O No	laboratory r	eceive and <u>perform</u> Comments:	all of a	the subn	nitted s	sample analyses?			
b. If t lab	<ul> <li>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?</li> <li>O Yes</li> <li>O No</li> <li>Comments:</li> </ul>										
N/A											
2. Chain of Cus	stody	<u>(COC)</u>									
a. COC	infor	mation completed, si	igned, and	dated (including rel	leased/r	received	by)?				
ΟY	es	○ No		Comments:							
b. Corro • Y	ect ar Tes	nalyses requested? ○ No		Comments:							
3. <u>Laboratory S</u>	amp]	le Receipt Document	tation			· • • -	-				
a. Samp • Y	ole/co es	oler temperature doc () No	cumented ar	nd within range at re Comments:	eceipt (	$(4^\circ \pm 2^\circ)$	C)?				
5.9 Degree	es Ce	lsius (coolers did not	t have temp	erature blanks)							

	mormated Solven	ts, etc.)?
	○ No	Comments:
c. Sample co	ondition document	ed - broken, leaking (Methanol), zero headspace (VOC vials)?
O Yes	○ No	Comments:
N/A		
d. If there w preservation	ere any discrepanc , sample temperatu	ies, were they documented? - For example, incorrect sample containers/ ire ouside of acceptance range, insufficient or missing samples, etc.?
Coolers did not	have temperature	blanks.
e. Data qual	ity or usability affe	ceted? Explain.
		Comments:
Data quality or	usability does not	appear to be affected.
Case Narrative		
a. Present an	d understandable?	
• Yes	○ No	Comments:
b. Discrepar	ncies, errors or QC O No	failures identified by the lab? Comments:
c. Were all c • Yes	orrective actions d	locumented? Comments:
		ality/usability according to the case parrative?
d. What is th	ne effect on data qu	Comments:
d. What is th	ne effect on data qu ability does not ap	Comments: pear to be affected.
d. What is th Data quality/us Samples Results	ne effect on data qu ability does not ap	pear to be affected.
d. What is th Data quality/us amples Results a. Correct an	ability does not ap	comments: pear to be affected. :eported as requested on COC?

5.

4.

#### b. All applicable holding times met? $(\bullet)$

Ο	No
	Ο

Comments:

c.	All	soils	reported	on a	ı dry	weight	basis?	
	-							

Comments: ○ Yes  $\bigcirc$  No

#### N/A

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

O Yes  $\bigcirc$  No Comments:

Arsenic, selenium and cadmium MDLs are above the applicable GCLs.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected. The above listed metals analyses are ND; however, due to the elevated MDL, the potential exceedances might exist at lower concentrations.

## 6. QC Samples

a. Method Blank

• Yes

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

Comments: ○ No

ii. All method blank results less than PQL? O Yes • No Comments:

1,2,3-Trichlorobenzene was detected in the VOCs by 8260B method blank.

iii. If above PQL, what samples are affected?

Comments:

VOCs by 8260B Method Blank

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined? Comments: • Yes  $\bigcirc$  No

v. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

	• Yes	$\bigcirc$ No	Comments:
	ii. Metals/l samples?	Inorganics - One	ELCS and one sample duplicate reported per matrix, analysis and 20
	• Yes	○ No	Comments:
	iii. Accura project spe 75%-125% • Yes	cy - All percent cified DQOs, if 6, AK103 60%-1 ○ No	recoveries (%R) reported and within method or laboratory limits? And applicable. (AK Petroleum methods: AK101 60%-120%, AK102 20%; all other analyses see the laboratory QC pages) Comments:
	iv. Precisio limits? An see the lab • Yes	on - All relative d project specifi oratory QC page O No	percent differences (RPD) reported and less than method or laboratory ed DQOs, if applicable. (AK Petroleum methods 20%; all other analyses es) Comments:
	v. If %R o	r RPD is outside	of acceptable limits, what samples are affected? Comments:
/A			
	vi. Do the O Yes	affected sample:	s(s) have data flags? If so, are the data flags clearly defined? Comments:
[/A			
	vii. Data q	uality or usabilit	y affected? Explain. Comments:
I/A			
c. §	Surrogates -	Organics Only	
5. 6	i. Are surro • Yes	ogate recoveries	reported for organic analyses - field, QC and laboratory samples? 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)

 $\bigcirc$  Yes  $\bigcirc$  No

Comments:

GRO QA/QC duplicate was outside of acceptable limits due to sample matrix effects.

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

• Yes O No

Comments:

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

Comments:

i. One trip blank reported per matrix, analysis and cooler?

• Yes O No

ii. All results less than PQL? • Yes • No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

#### N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
 • Yes
 • No
 Comments:

ii. Submitted blind to lab? • Yes O No

Comments:

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

RPD (%) = Absolute Value of:  $(\underline{R_{1-} R_{2}})_{X \ 100}$ (( $R_{1+} R_{2}$ )/2)

Where  $R_1 =$  Sample Concentration

 $R_2$  = Field Duplicate Concentration

○ Yes ● No Comments:

DRO RPD = 58.25%

iv. Data quality or usability affected? Explain.

 $\bigcirc$  Yes  $\bigcirc$  No Comments:

Data quality or usability does not appear to be affected.

f. Decontamination or Equipment Blank (if applicable)

 $\bigcirc$  Yes  $\bigcirc$  No  $\bigcirc$  Not Applicable

i. All results less than PQL? O Yes O No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate? • Yes • No

Comments:

N/A

Reset Form

# **Laboratory Data Review Checklist**

Completed by: Michael L. Strickler										
Title: Geologist I	Date: Jun 13, 2008									
CS Report Name: First Semi-Annual 2008 Groundwater Monitoring Report Report Date: Aug 13, 2008										
Consultant Firm: ARCADIS										
Laboratory Name: TestAmerica Laboratory Report Number: BRD0183										
ADEC File Number: 102.38.006 ADEC RecKey Number: 19843	310111601									
1. <u>Laboratory</u>										
a. Did an ADEC CS approved laboratory receive and <u>perform</u> all of • Yes O No Comments:	the submitted sample analyses?									
<ul> <li>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?</li> <li>O Yes</li> <li>O No</li> <li>Comments:</li> </ul>										
N/A										
2. Chain of Custody (COC)										
a. COC information completed, signed, and dated (including released/ • Yes O No Comments:	received by)?									
b. Correct analyses requested? • Yes O No Comments:										
3. <u>Laboratory Sample Receipt Documentation</u>										
a. Sample/cooler temperature documented and within range at receipt • Yes O No Comments:	$(4^{\circ} \pm 2^{\circ} C)?$									
5.9 Degrees Celsius										
0 1 65	$\bigcirc$ No	Comments.								
---	-----------------------------	--								
	U NO									
c. Sample co $\bigcirc$ Yes	○ No	d - broken, leaking (Methanol), zero headspace (VOC vials)? Comments:								
N/A										
d. If there w	ere any discrepance	ies, were they documented? - For example, incorrect sample containe								
preservation • Yes	, sample temperatu ○ No	re ouside of acceptance range, insufficient or missing samples, etc.? Comments:								
Insufficient san	nple volume for ED	DB by 8011.								
e. Data quali	ity or usability affe	cted? Explain.								
		Comments:								
Data quality or	usability does not a	appear to be affected.								
ase Narrative										
a. Present an	d understandable?									
• Yes	⊖ No	Comments:								
b. Discrepan • Yes	cies, errors or QC	failures identified by the lab? Comments:								
b. Discrepan • Yes	cies, errors or QC () No	failures identified by the lab? Comments:								
b. Discrepan Yes c. Were all c	orrective actions d	failures identified by the lab? Comments: ocumented?								
b. Discrepan	orrective actions d	failures identified by the lab? Comments: ocumented? Comments:								
<ul> <li>b. Discrepan</li> <li>• Yes</li> <li>c. Were all c</li> <li>• Yes</li> </ul>	corrective actions d	failures identified by the lab? Comments: ocumented? Comments:								
<ul> <li>b. Discrepan</li> <li>• Yes</li> <li>c. Were all c</li> <li>• Yes</li> <li>d. What is the</li> </ul>	e effect on data qu	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative? Comments:								
b. Discrepan • Yes c. Were all c • Yes d. What is the N/A	orrective actions d	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative? Comments:								
b. Discrepan • Yes c. Were all c • Yes d. What is the N/A amples Results	e effect on data qu	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative? Comments:								
<ul> <li>b. Discrepan</li> <li>Yes</li> <li>c. Were all c</li> <li>• Yes</li> <li>d. What is the</li> <li>N/A</li> <li>amples Results</li> <li>a. Correct an</li> </ul>	e effect on data qu	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative? Comments: eported as requested on COC?								

5.

4.

b. All applicab	le holding times met?
• Yes	○ No

Comments:

c.	All soils re ○ Yes	ported on a dry w ○ No	reight basis? Comments:
N/A			
d. pr	Are the reproject?	ported PQLs less t	han the Cleanup Level or the minimum required detection level for the
I	O Yes	• No	Comments:
MDL	ls for arsen	ic, selenium and c	admium are above the GCL.
e.	Data qualit	ty or usability affe	ccted? Explain. Comments:
Data howe	quality or u ever, there a	usability does not are potential excee	appear to be affected. Analyses for the above listed metals are ND; edances of the GCL at low concentrations.
<u>C Sar</u>	nples		
a.	Method Bla	ank	
	i. One me	ethod blank report	ed per matrix, analysis and 20 samples?
	• Yes	○ No	Comments:
	ii All me	thad blank results	less than POL 2
	• Yes	O No	Comments:
	iii. If abo	ve PQL, what sam	ples are affected?
N/A			Comments:
11/11	iv. Do the	e affected sample(	s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data q	uality or usability	affected? Explain.
			Comments.
1 m m / /			

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

	• Yes	$\bigcirc$ No	Comments:
	ii. Metals/l samples?	Inorganics - One	ELCS and one sample duplicate reported per matrix, analysis and 20
	• Yes	○ No	Comments:
	iii. Accura project spe 75%-125% • Yes	cy - All percent cified DQOs, if 6, AK103 60%-1 ○ No	recoveries (%R) reported and within method or laboratory limits? And applicable. (AK Petroleum methods: AK101 60%-120%, AK102 20%; all other analyses see the laboratory QC pages) Comments:
	iv. Precisio limits? An see the lab • Yes	on - All relative d project specifi oratory QC page O No	percent differences (RPD) reported and less than method or laboratory ed DQOs, if applicable. (AK Petroleum methods 20%; all other analyses es) Comments:
	v. If %R o	r RPD is outside	of acceptable limits, what samples are affected? Comments:
/A			
	vi. Do the O Yes	affected sample:	s(s) have data flags? If so, are the data flags clearly defined? Comments:
[/A			
	vii. Data q	uality or usabilit	y affected? Explain. Comments:
I/A			
c. §	Surrogates -	Organics Only	
5. 6	i. Are surro • Yes	ogate recoveries	reported for organic analyses - field, QC and laboratory samples? Comments:

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

○ Yes ● No

Comments:

Due to sample matrix effects, the surrogate recovery for the MW-25 sample for GRO was outside of acceptable limits.

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

● Yes ○ No Comments:

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

Comments:

i. One trip blank reported per matrix, analysis and cooler?

• Yes O No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

#### N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
 • Yes
 • No
 Comments:

ii. Submitted blind to lab?● Yes ○ No

Comments:

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

RPD (%) = Absolute Value of:  $(\underline{R_{1-} R_{2}})_{X \ 100}$ (( $R_{1+} R_{2}$ )/2)

Where  $R_1 =$  Sample Concentration

 $R_2$  = Field Duplicate Concentration

• Yes O No

Comments:

iv. Data quality or usability affected? Explain.

 $\bigcirc$  Yes  $\bigcirc$  No Comments:

### N/A

f. Decontamination or Equipment Blank (if applicable)

 $\bigcirc$  Yes  $\bigcirc$  No  $\bigcirc$  Not Applicable

i. All results less than PQL? O Yes O No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate? • Yes • No

Comments:

N/A

Reset Form

# **Laboratory Data Review Checklist**

Completed by: Michael L. Strickler					
Title:   Geologist I   Date:   Jun 13, 2008					
CS Report Name: First Semi-Annual 2008 Groundwater Monitoring Report Date: Aug 13, 2008					
Consultant Firm: ARCADIS					
Laboratory Name: TestAmerica Laboratory Report Number: BRD0203					
ADEC File Number: 102.38.004 ADEC RecKey Number: 1989310912101					
1. <u>Laboratory</u>					
<ul> <li>a. Did an ADEC CS approved laboratory receive and <u>perform</u> all of the submitted sample analyses?</li> <li>Yes O No Comments:</li> </ul>					
<ul> <li>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?</li> <li>O Yes</li> <li>O No</li> <li>Comments:</li> </ul>					
N/A					
2. Chain of Custody (COC)					
a. COC information completed, signed, and dated (including released/received by)? • Yes O No Comments:					
b. Correct analyses requested? O Yes • No Comments:					
GEI-11-W-080412 was erroneously requested for analysis of EDB by 8011.					
3. <u>Laboratory Sample Receipt Documentation</u>					
a. Sample/cooler temperature documented and within range at receipt $(4^\circ \pm 2^\circ C)$ ?					
• Yes O No Comments:					
2.1 Degrees Celsius					

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

○ Yes ⊙ No Comments:

According to laboratory notification of discrepancy, the lab received 1L ambers and 250mL amber unpreserved but with HCl labels on them.

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)? • Yes O No Comments:

1 250 mL amber broken for GEI-12-W-080411

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

• Yes O No

Comments:

According to the laboratory notification of discrepancy, COC says MW-6-W-080412 4/11/08 @ 1640, container says MW-6-W-080411 4/11/08 @ 1640, logged according to COC. COC says MW-4-W-080412 4/12/08 @ 1550 & container says MW-4-W-080411 4/11/08 @ 1550, logged according to COC - ARCADIS instructed TestAmerica to change the sample names to those on the bottles. COC requests DRO & RRO analyses for the QA sample; however, insufficient bottles were submitted for the laboratory to perform the analyses.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability not affected, analyses performed as requested. Samples have been changed per ARCADIS request to reflect sample date and ID written on containers. QA samples is ND for analyzed compounds.

## 4. Case Narrative

- a. Present and understandable?
  - Yes O No

Comments:

- b. Discrepancies, errors or QC failures identified by the lab?
   Yes No Comments:
- c. Were all corrective actions documented?
  - Yes  $\bigcirc$  No Comments:

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

Comments:

N/A

# 5. Samples Results

$\bigcirc$ Yes	• No	Comments:
DRO & RRO an	alyses were reques	ted for the QA sample (trip blank) but not performed by the laborato
h All applica	ble holding times n	net?
• Yes	$\bigcirc$ No	Comments:
c. All soils re	ported on a dry we	ight basis?
○ Yes	○ No	Comments:
N/A		
1 4 .1	outed DOL a loga the	
d. Are the rep project?	forted PQLs less the	an the Cleanup Level of the minimum required detection level for th
d. Are the rep project? O Yes	• No	Comments:
d. Are the rep project? O Yes RRO analyses an MW-4 and MW- samples. e. Data qualit	<ul> <li>No</li> <li>re above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> </ul>	Comments: GCL for all samples with the exception of those samples from MW am and lead MDLs are above the applicable ADEC GCLs for variou
d. Are the rep project? ○ Yes RRO analyses an MW-4 and MW- samples. e. Data qualit	<ul> <li>No</li> <li>The above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> </ul>	Comments: GCL for all samples with the exception of those samples from MW am and lead MDLs are above the applicable ADEC GCLs for variou ted? Explain. Comments:
d. Are the rep project? O Yes RRO analyses an MW-4 and MW- samples. e. Data qualit Samples for RR0 of the GCL at lo MDLs are above	<ul> <li>No</li> <li>Te above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> <li>O are non-detect; he wer concentrations</li> <li>the GCLs indicating</li> </ul>	Comments: GCL for all samples with the exception of those samples from MW and lead MDLs are above the applicable ADEC GCLs for variou ted? Explain. Comments: owever, the MDL is above the GCL indicating a potential exceedance. Samples for the various metals listed above are ND; however the ng a potential exceedance of the GCLs at lower concentrations.
d. Are the rep project? O Yes RRO analyses an MW-4 and MW- samples. e. Data qualit Samples for RRO of the GCL at lo MDLs are above	<ul> <li>No</li> <li>Te above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> <li>O are non-detect; he wer concentrations</li> <li>the GCLs indicating</li> </ul>	an the Cleanup Level of the minimum required detection level for th Comments: GCL for all samples with the exception of those samples from MW and lead MDLs are above the applicable ADEC GCLs for variou ted? Explain. Comments: owever, the MDL is above the GCL indicating a potential exceedance. Samples for the various metals listed above are ND; however the ng a potential exceedance of the GCLs at lower concentrations.
d. Are the rep project? O Yes RRO analyses an MW-4 and MW- samples. e. Data qualit Samples for RRO of the GCL at lo MDLs are above C Samples a. Method Bla	<ul> <li>No</li> <li>Te above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> <li>O are non-detect; he wer concentrations</li> <li>the GCLs indicating</li> <li>ank</li> </ul>	an the Cleanup Level or the minimum required detection level for th Comments: GCL for all samples with the exception of those samples from MW and lead MDLs are above the applicable ADEC GCLs for variou ted? Explain. Comments: owever, the MDL is above the GCL indicating a potential exceedance. Samples for the various metals listed above are ND; however the ng a potential exceedance of the GCLs at lower concentrations.
d. Are the rep project? O Yes RRO analyses an MW-4 and MW- samples. e. Data qualit Samples for RRO of the GCL at lo MDLs are above <u>C Samples</u> a. Method Bla i. One me	<ul> <li>No</li> <li>The above the ADEC</li> <li>-6. Arsenic, selenit</li> <li>y or usability affect</li> <li>O are non-detect; he wer concentrations</li> <li>the GCLs indicating</li> <li>ank</li> <li>when the blank reported</li> </ul>	an the Cleanup Level of the minimum required detection level for th Comments: GCL for all samples with the exception of those samples from MW im and lead MDLs are above the applicable ADEC GCLs for variou ted? Explain. Comments: owever, the MDL is above the GCL indicating a potential exceedance. Samples for the various metals listed above are ND; however the ng a potential exceedance of the GCLs at lower concentrations. d per matrix, analysis and 20 samples?

ii. All method blank results less than PQL? O Yes • No Comments:

1,2,3-trichlorobenzene was detected in the method blank for VOC 8260B analysis.

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined? • Yes O No Comments:

v. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

• Yes O No

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

Comments:

• Yes O No

Comments:

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)

Dichlorodifluoromethane LCS and/or LCSD recovery was outside of the acceptable limits.

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

• Yes O No

Comments:

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

According to the laboratory report, analyte was not detected (Dichlorodifluromethane) and data is not affected.

vi. Do the affected samples(s) have data flags? If so, are the data flags clearly defined? • Yes O No Comments:

vii. Data quality or usability affected? Explain.

Comments:

According to the laboratory report, data quality or usability not affected.

i. Are surrogate recoveries reported for organic analyses - field, QC and laboratory samples?
 • Yes
 • No
 Comments:

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

O Yes • No

Comments:

Multiple GRO, DRO & RRO surrogate percent recoveries were outside of the acceptable limits due to matrix effects.

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

• Yes O No

Comments:

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

ii. All results less than PQL? • Yes • No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

DRO & RRO analyses requested but not performed for the trip blank. Data quality or usability does not appear to be affected.

#### e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples? • Yes Comments: O No ii. Submitted blind to lab? • Yes  $\bigcirc$  No Comments: iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of:  $(R_1 - R_2) \times 100$  $((R_{1+} R_2)/2)$ Where  $R_1$  = Sample Concentration  $R_2$  = Field Duplicate Concentration • Yes  $\bigcirc$  No Comments: iv. Data quality or usability affected? Explain. O Yes Comments: O No N/A f. Decontamination or Equipment Blank (if applicable)  $\bigcirc$  Yes • Not Applicable ONo i. All results less than PQL? O Yes Comments: O No N/A ii. If above PQL, what samples are affected? Comments: N/A iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined a	nd appropriate?		
$\bigcirc$ Yes	$\bigcirc$ No	Comments:	
N/A			

Reset Form