

**Quarterly Groundwater Monitoring
Fourth Quarter 2014**

Tiger Oil North 1st
Yakima, Washington

for

Washington State Department of Ecology

March 26, 2015



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File No. 0504-101-00

March 26, 2015


Prepared for:

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1.0 INTRODUCTION

This report describes groundwater monitoring activities conducted in December 2014 at the Tiger Oil North 1st site located at 1808 North 1st Street in Yakima, Washington (herein referred to as “site”). The site is located approximately as shown in the Vicinity Map, Figure 1.

Environmental activities at the site currently are managed by the Washington State Department of Ecology (Ecology). This report provides a brief site description and background, our scope of services, a description of field activities, chemical analytical results and conclusions for the December 2014 groundwater monitoring event.

2.0 SITE DESCRIPTION AND BACKGROUND

The site is located at 1808 North 1st Street in Yakima, Washington. The site is bordered by arterial roadway North 1st Street to the east and the Sun Country Inn to the south and west of the site. A paved entrance to the All Star Motel and Ron Nehls Auto Sales is located to the north as shown on Site Plan and Sample Locations, Figure 2.

The site operated as a retail gasoline station and convenience store until closure in 2001. The site contains two buildings and three historical fuel dispenser islands formerly under a central canopy. Buildings at the site include the larger former convenience store in the southwest corner of the site and a smaller kiosk near the center of the site. The site is generally paved, except where four former underground storage tanks (USTs) were removed from the north central portion of the site.

In 1982, a release of approximately 12,000 to 22,000 gallons of leaded and unleaded gasoline from delivery lines occurred between the tanks and dispensers (Wagner et al., 1991). The release reportedly contaminated drinking water wells to the east and residential units in the area were eventually connected to a public water supply source.

Remediation activities included installation of 34 groundwater monitoring wells and two recovery wells. These wells were installed both as part of the remediation activities and for a hydrogeological study performed in the area. It is unknown how many of these wells remain today and if decommissioning reports are available for the wells. These wells have not been located as part of previous assessments. Removal records indicate that approximately 40 gallons of free product were recovered between 1982 and 1983. Recovery efforts were ceased in 1983 because of the cost of spill response efforts and low product recovery volume. Groundwater monitoring conducted in 1989 indicated concentrations of benzene and xylenes were greater than Model Toxics Control Act (MTCA) Method A cleanup levels in groundwater samples collected from wells directly east of the site (Wagner et al., 1991).

In 2005, four USTs were decommissioned at the site and the subsurface fuel lines were drained and capped with quick setting cement. The tanks removed from the site included:

- 20,000-gallon steel unleaded gasoline tank
- 10,000-gallon steel unleaded gasoline tank

- 8,000-gallon steel unleaded gasoline tank
- 6,000-gallon diesel tank

Upon removal, the tanks were examined by Tetra Tech FW, Inc., Tri-Valley Construction and Ecology. The tanks had minor surface rust and were reported to be in good condition with no visual evidence of leaks or holes. However, some visual evidence of staining near the fill pipe and turbine unit, and in the surrounding soil was observed near the 20,000-gallon UST (Tetra Tech, 2005). Evidence of fill piping or turbine unit spillage was not observed on the other three tanks.

Soil samples collected from the tank removal excavation in 2005 indicated the presence of gasoline contamination at depths of 8 and 13 feet in 2 of the 10 samples collected (McCreedy, 2005). Detected gasoline in samples reportedly was weathered, as indicated by the absence of benzene. Fuel dispensers and product delivery lines were not assessed as part of the 2005 work.

In 2014, GeoEngineers, Inc. (GeoEngineers) conducted additional assessment activities in order to confirm the presence and extents of contamination identified during the 2005 UST removal (GeoEngineers, 2014c). The additional assessment activities included advancing eight direct-push borings, collecting groundwater samples from temporary wells installed in each direct-push boring, installing five groundwater monitoring wells and collecting the September 2014 groundwater sample from each of the new wells. Exploration locations and cleanup level exceedances are shown in Figure 2.

The results of the soil investigation indicated petroleum contamination exceeding MTCA Method A cleanup levels near the former tank pit and fuel dispenser islands. Analytical and field screening results of soil samples from borings N1DP-5, N1MW-3 and N1MW-5 generally indicated petroleum contamination had not migrated to the north or south of the property. Investigation results can be summarized by the following:

- Gasoline-range petroleum hydrocarbons (GRPH), diesel-range petroleum hydrocarbons (DRPH), benzene, toluene, ethylbenzene and xylenes (BTEX) and naphthalenes were detected at concentrations exceeding MTCA Method A cleanup levels in soil samples from N1DP-8.
- GRPH, benzene, ethylbenzene, xylenes and naphthalenes were detected at concentrations exceeding MTCA Method A cleanup levels in soil samples from N1DP-1 and N1DP-3.
- GRPH were detected at concentrations exceeding the MTCA Method A cleanup level in soil samples from N1DP-2 and N1DP-4.

Laboratory analytical results indicated contaminants of concern did not exceed MTCA Method A cleanup levels in groundwater samples collected from the five groundwater monitoring wells (N1MW-1 through N1MW-5). Results of hydrocarbon identification (HCID) analyses indicated the presence of GRPH, DRPH or oil-range petroleum hydrocarbon (ORPH) in temporary wells completed in N1DP-1 through N1DP-5. Sampling methods from temporary wells and analytical methods using HCID analysis are not as accurate as other methods and therefore the results should be considered as screening tools. Groundwater samples collected from the direct-push borings were generally turbid and analytical results might not be representative of actual groundwater conditions.

3.0 SCOPE OF SERVICES

GeoEngineers prepared a Work Plan, dated April 15, 2014 (GeoEngineers, 2014a) and supplemental memorandum (GeoEngineers, 2014b) to guide the groundwater monitoring activities described herein. The scope of services performed by GeoEngineers during the quarterly groundwater monitoring event conducted on December 11, 2014 included:

- Measuring well headspace vapors and depth to groundwater in each of the five monitoring wells (N1MW-1 through N1MW-5).
- Measuring water quality parameters including pH, temperature, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP) and ferrous iron.
- Collecting primary groundwater samples from each well and a duplicate sample from N1MW-1 using low-flow/low-stress sampling techniques.
- Submitting groundwater samples to TestAmerica Laboratories, Inc. (TestAmerica) for chemical analysis of:
 - GRPH (Northwest Method NWTPH-Gx);
 - DRPH (Northwest Method NWTPH-Dx, with and without silica gel cleanup);
 - Volatile organic compounds (VOCs) (Environmental Protection Agency [EPA] Method 8260C);
 - 1,2-dibromoethane (EDB) (EPA Method 8011C);
 - Total organic carbon (TOC) (Method SM5310C);
 - Lead (EPA Method 200.7); and
 - Naphthalenes (EPA Method 8260C).
- Comparing laboratory analytical results with applicable project cleanup criteria.
- Calculating groundwater elevation within site monitoring wells.
- Estimating groundwater flow direction and the range in hydraulic gradient across the site.

Samples were also analyzed for two natural attenuation parameters: nitrate and sulfate (SO_4) by EPA Method 300.0. Soluble ferrous iron (Fe^{+2}), which has a 15-minute hold time, was analyzed in the field using a Hach IR-18C color disc test kit and the 1,10 phenanthroline testing method.

4.0 FIELD ACTIVITIES

4.1. Monitoring Well Headspace Vapor Monitoring

Monitoring well headspace vapors were measured on December 11, 2014 using a photoionization detector (PID). Headspace measurements were collected by inserting the PID probe into the well casing immediately after removing the well cap and recording the maximum observed concentration. Headspace vapors were measured at 1.5 parts per million (ppm) in N1MW-1 and less than 1.0 ppm in monitoring wells N1MW-2 through N1MW-5, as shown in Summary of Groundwater Field Parameters, Table 1.

4.2. Groundwater Elevation Monitoring

Static depth to groundwater was measured in monitoring wells N1MW-1 through N1MW-5 on December 11, 2014 using an electronic water level indicator. Depth to groundwater ranged from 10.91 feet (N1MW-4) to 13.65 feet (N1MW-1) below the top of well casing, as shown in Summary of Groundwater Level Measurement, Table 2. Groundwater elevations ranged from about 1,070.80 feet in N1MW-2 to 1,071.22 feet in N1MW-4. In monitoring wells N1MW-1 through N1MW-5, groundwater elevations increased an average of about 0.2 feet relative to the previous monitoring event conducted during September 2014.

Based on groundwater elevations measured on December 11, 2014, groundwater flow in the shallow unconfined aquifer beneath the property generally was toward the east, as shown in Groundwater Elevation and Interpreted Flow Direction, December 11, 2014, Figure 3. The estimated hydraulic groundwater gradient of the shallow aquifer was about 0.003 feet per foot (about 16 feet per mile). Groundwater elevation contours were interpreted from depth to water measurements, surveyed elevations of well casings and Surfer Version 1.2.

4.3. Groundwater Sampling

Monitoring wells N1MW-1 through N1MW-5 were purged and sampled in general conformance with standard low-flow sampling methodology on December 11, 2014. A duplicate sample was collected from N1MW-1. A peristaltic pump and dedicated well tubing was used to purge and sample each well. Groundwater quality parameters were measured at approximate 3-minute intervals during well purging. Groundwater samples were collected in conformance with the stabilization and/or maximum purge time criteria presented in Appendix A. Groundwater field parameters recorded at the conclusion of well purging are provided in Table 1.

Purge water generated during groundwater sampling was drummed, labeled and stored on the site pending profiling and disposal.

5.0 CHEMICAL ANALYTICAL RESULTS

5.1. Groundwater Chemical Analytical Results

Analytical results for samples collected on December 11, 2014 are tabulated and compared to previous results and MTCA Method A cleanup levels in Summary of Chemical Analytical Results – Groundwater, Table 3. TestAmerica's laboratory report is provided in Appendix B.

The following is a summary of the December 11, 2014 analytical data:

- GRPH and DRPH were detected at concentrations less than the MTCA Method A cleanup levels in the sample from N1MW-2. GRPH and DRPH were not detected in samples collected from monitoring wells N1MW-1, N1MW-3, N1MW-4 or N1MW-5.
- Isopropylbenzene was detected at a concentration greater than its reporting limit in the sample from N1MW-2. This analyte does not have an established MTCA Method A or B cleanup level.

- BTEX, EDB, 1,2-dichloroethane (EDC), methyl tert-butyl ether (MTBE), naphthalene, lead, 2-butanone, n-propylbenzene and sec-butylbenzene were either not detected or were detected at concentrations less than their respective cleanup levels in groundwater samples collected from site wells.

N1MW-2 is located downgradient of observed soil contamination on site and as such appears to be on the leading edge of the groundwater contamination plume. Though N1MW-1 is located closer to the observed soil contamination, only GRPH was detected at a concentration greater than cleanup level in the boring closest to N1MW-1 (N1DP-2) and other soil contamination observed is generally located cross-gradient to N1MW-1.

5.2. Natural Attenuation Parameters

In addition to the contaminants of concern, groundwater samples were analyzed for natural attenuation parameters and field parameters. Results of laboratory-analyzed natural attenuation parameters are provided in Table 3. Field measurement results are provided in Table 1. Reported field parameters reflect stabilized conditions at the conclusion of well purging during low-flow sampling. Low DO and nitrate concentrations observed in December 2014 suggest possible biodegradation of petroleum contamination near N1MW-2.

Dissolved oxygen was measured at 0.14 milligrams per liter (mg/L) in monitoring well N1MW-2, and about 1 mg/L in monitoring wells N1MW-1 and N1MW-5, suggesting that anaerobic conditions are present in shallow groundwater beneath the site near these wells and that electron acceptors other than oxygen will be relied on to metabolize contaminants during biodegradation reactions. In general, observed natural attenuation parameters suggest that natural attenuation processes (and associated loss of contaminant mass) currently are ongoing near N1MW-1, N1MW-2 and N1MW-5. This conclusion is based on the following observed conditions in monitoring wells N1MW-1, N1MW-2, and N1MW-5 relative to up and cross-gradient monitoring wells N1MW-3 and N1MW-4.

- Lower field-measured ORP and DO.
- A slight decrease in nitrate concentrations, which can act as an electron acceptor compound in natural attenuation processes.
- An increase in the ferrous iron concentrations in N1MW-1 and N1MW-5, which can be an indicator of natural attenuation processes.

5.3. QA/QC Summary

GeoEngineers reviewed the laboratory internal quality assurance/quality control (QA/QC) in the context of project data quality goals. Results of our review, as well as our evaluation of data suitability, are provided in Appendix B. In summary, it is our opinion that the quality of the analytical data generally is acceptable for the intended use. However, the following items were noted:

- For Sample MW-2-121114 (collected from N1MW-2), the laboratory flagged the diesel-range hydrocarbons result with “Q5”, indicating that the diesel-range hydrocarbons result was being influenced by the relative concentration of gasoline-range hydrocarbons in the sample. For this reason, the positive result for diesel-range hydrocarbons was qualified as estimated (J) in this sample, in order to signify a potential high bias.

6.0 CONCLUSIONS

Fourth quarter 2014 groundwater monitoring activities took place at the North 1st Street site on December 11, 2014. Depth to groundwater ranged from 10.91 feet (N1MW-4) to 13.65 feet (N1MW-1) below the top of well casing. Groundwater elevations ranged from about 1,070.80 feet in N1MW-2 to 1,071.22 feet in N1MW-4; elevations increased an average of approximately 0.2 feet, as measured in the five site wells, relative to the previous monitoring event. Groundwater elevations at the site indicated groundwater flow in the shallow unconfined aquifer beneath the property generally was toward the east.

Groundwater samples collected during the December 2014 groundwater monitoring event did not contain contaminants of concern exceeding MTCA Method A cleanup levels. GRPH and DRPH were detected in N1MW-2 at concentrations less than the MTCA Method A cleanup levels and less than the results from the September 2014 sampling event. The laboratory indicated that DRPH concentrations reported for the sample from N1MW-2 were likely due to overlap from a gasoline-range product. Natural attenuation parameters indicate possible biodegradation near N1MW-1, N1MW-2, and N1MW-5. These locations might be near the fringe of the documented groundwater plume from previous studies. Samples analyzed from the remaining monitoring wells were generally less than laboratory reporting limits for suspected petroleum-based contaminants.

7.0 LIMITATIONS

We have prepared this report for the exclusive use of Ecology and their authorized agents.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. The conclusions and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty or other conditions, express or implied, should be understood.

Any electronic form, facsimile or hard copy of the original document (email, text, table and/or figure), if provided, and any attachments should be considered a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to "Report Limitations and Guidelines for Use," Appendix C, for additional information pertaining to use of this report.

8.0 REFERENCES

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Table 1
Summary of Groundwater Field Parameters¹
 Tiger Oil North 1st Street
 Yakima, Washington

Well Number	Date Collected	pH	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP - Field ² (mV)	ORP - Normalized ³ (mV)	Turbidity (NTU)	Soluble Ferrous Iron (mg/L)	Monitoring Well Headspace ⁴ (ppm)
N1MW-1	09/18/14	6.57	17.03	0.25	2.46	54	256	16.31	1.25	1.5
	12/11/14	6.59	16.99	0.23	1.04	13	215	1.15	1.0	1.5
N1MW-2	09/18/14	6.69	17.46	0.27	0.05	-143	59	1.03	0	0.0
	12/11/14	6.49	16.50	0.25	0.14	-90	112	4.13	0	0.0
N1MW-3	09/18/14	6.75	16.25	0.26	5.69	-148	55	0.07	0	0.3
	12/11/14	6.65	16.32	0.24	6.32	142	345	0.86	0	0.3
N1MW-4	09/18/14	6.68	16.77	0.24	5.82	90	292	4.48	0	0.1
	12/11/14	6.65	15.83	0.21	6.77	135	338	0.59	0	0.1
N1MW-5	09/18/14	6.49	18.25	0.25	0.98	-25	176	0.12	1.5	0.1
	12/11/14	6.53	17.01	0.23	0.90	-24	178	2.35	2.0	0.1

Notes:

¹Reported water quality parameters reflect stabilized conditions at the conclusion of well purging during low-flow sampling.

²Field ORP values are relative to the reference electrode associated with the multi-parameter meter.

³Normalized ORP values have been normalized, using algorithms provided by the instrument manufacturer, to the standard hydrogen electrode (SHE).

⁴Well headspace measurements were obtained using a photoionization detector immediately upon removal of the well's compression cap.

ORP = Oxidation reduction potential; °C = degrees Celsius; mS/cm = millisiemens per centimeter; mg/L = milligrams per liter; mV = millivolts; NTU = nephelometric turbidity units
 ppm = parts per million

Table 2
Summary of Groundwater Level Measurements
 Tiger Oil North 1st Street
 Yakima, Washington

Well Number	Grid Northing ¹ (feet)	Grid Easting ¹ (feet)	Top of Casing Elevation ² (feet)	Screen Elevation ² (feet)	Date Measured	Depth to Groundwater ³ (feet)	Groundwater Elevation ² (feet)	Change in Groundwater Elevation ⁴ (feet)
N1MW-1	470569.0	1637341.4	1,084.85	1075.4 to 1065.4	09/18/14	13.78	1,071.07	NA
					12/11/14	13.65	1,071.20	0.13
N1MW-2	470616.9	1637480.0	1,083.81	1073.8 to 1063.8	09/18/14	13.31	1,070.50	NA
					12/11/14	13.01	1,070.80	0.30
N1MW-3	470475.5	1637358.7	1,084.61	1074.6 to 1064.6	09/18/14	13.75	1,070.86	NA
					12/11/14	13.56	1,071.05	0.19
N1MW-4	470595.3	1637199.9	1,082.13	1075.1 to 1065.1	09/18/14	11.10	1,071.03	NA
					12/11/14	10.91	1,071.22	0.19
N1MW-5	470681.7	1637363.0	1,083.43	1074.4 to 1064.4	09/18/14	12.48	1,070.95	NA
					12/11/14	12.27	1,071.16	0.21

Notes:

¹Grid northing and easting are referenced to NAD83, Washington State Plane Coordinate System, South Zone.

²Elevations are referenced to the North American Vertical Datum of 1988 (NAVD88).

³Depth to water measurements obtained from the north side of the top of PVC well casing.

⁴Represents change in groundwater elevation from previous monitoring event, as measured in monitoring wells.

NA = Not Applicable

Table 3
Summary of Chemical Analytical Results - Groundwater¹
Tiger Oil North 1st Street
Yakima, Washington

Well ID	Regulatory Levels ²	N1MW-1		Duplicate (N1MW-1)	N1MW-2		N1MW-3		N1MW-4		N1MW-5	
		09/18/14	12/11/14		09/18/14	12/11/14	09/18/14	12/11/14	09/18/14	12/11/14	09/18/14	12/11/14
Method NWTPH-Gx - Gasoline Range (µg/L)												
Gasoline-range hydrocarbons	800/1,000 ³	256	<100	<100	506	372	<100	<100	<100	<100	<100	<100
Method NWTPH-Dx - Diesel Range (µg/L)												
Diesel-range hydrocarbons	500	<0.234	<233	<232	459	269 J	<231	<234	<232	<232	238	<234
Diesel-range hydrocarbons w/silica gel	500	NT	NT	NT	<229	247 J	NT	NT	NT	NT	<230	NT
Heavy Oil-Range Hydrocarbons	500	<0.389	<388	<386	<382	<383	<386	<389	<386	<387	<384	<391
Heavy Oil-Range Hydrocarbons w/silica gel	500	NT	NT	NT	<382	<383	NT	NT	NT	NT	<384	NT
Method EPA 8011 - EDB (µg/L)												
1,2-dibromoethane (EDB)	0.01	NT	<0.0100	<0.0100	NT	<0.0100	NT	<0.0100	NT	<0.0100	NT	<0.0100
Method EPA 8260C - VOCs (µg/L)⁴												
1,2-Dichloroethane (EDC)	5	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Benzene	5	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Ethylbenzene	700	<1.00	<1.00	<1.00	5.17	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Methyl t-butyl ether (MTBE)	20	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Naphthalene	160	<2.00	<2.00	<2.00	3.15	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Toluene	1,000	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Xylene, m-,p-	1,000 ⁵	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Xylene, o-		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Xylene, Total		<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
2-Butanone	4,800 ⁶	<10.0	<10.0	<10.0	<10.0	16.2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Isopropylbenzene	NE	<1.00	<1.00	<1.00	5.69	4.59	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
N-Propylbenzene	800 ⁶	<1.00	<1.00	<1.00	15.2	2.56	<1.00	<1.00	<1.00	<1.00	1.22	1.78
sec-Butylbenzene	800 ⁶	<1.00	<1.00	<1.00	2.80	3.24	<1.00	<1.00	<1.00	<1.00	<1.00	1.21
Metals Method EPA 200.7 - Total Lead (mg/L)												
Lead	0.015	NT	<0.0140	<0.0140	NT	<0.0140	NT	<0.0140	NT	<0.0140	NT	<0.0140
Conventional (mg/L)												
Nitrate-Nitrogen	10 ⁷	0.840	0.610	0.550	<0.200	<0.200	1.24	0.740	0.950	0.620	0.490	0.350
Sulfate	250 ⁸	9.69	7.90	7.81	5.25	5.50	10.1	8.25	8.49	6.92	9.68	9.25
Total Organic Carbon	NE	1.55	1.05	1.05	1.66	1.41	1.22	<1.00	1.19	<1.00	1.36	1.09

Notes:

¹Chemical analyses conducted by TestAmerica of Spokane, Washington.

²Regulatory level refers to Washington State Model Toxics Control Act (MTCA) Method A cleanup level unless otherwise footnoted.

³Cleanup level for GRPH is 800 µg/L when benzene is present, 1,000 µg/L when benzene is not present.

⁴Only VOCs detected at concentrations greater than their reporting limits are listed in the table. For a complete list of VOCs analyzed see the laboratory analytical report, Appendix B.

⁵Cleanup level for total xylenes.

⁶MTCA Method B cleanup level.

⁷Maximum contaminant level established by Title 40, Volume 19 of the Code of Federal Regulations.

⁸Secondary maximum contaminant level recommended by the Environmental Protection Agency.

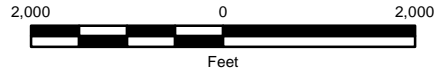
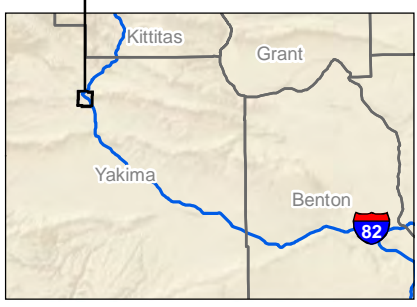
J flag indicates results are qualified as estimated. See data validation report for additional information.

Bold indicates analyte concentration exceeds laboratory reporting limit.

µg/L = micrograms per liter; NT = not tested; NE = not established

Map Revised: 11 September 2014 ccabrera

Office: PORT Path: P:\00504101_GIS\MXD\050410100_F1_VM_N1.mxd

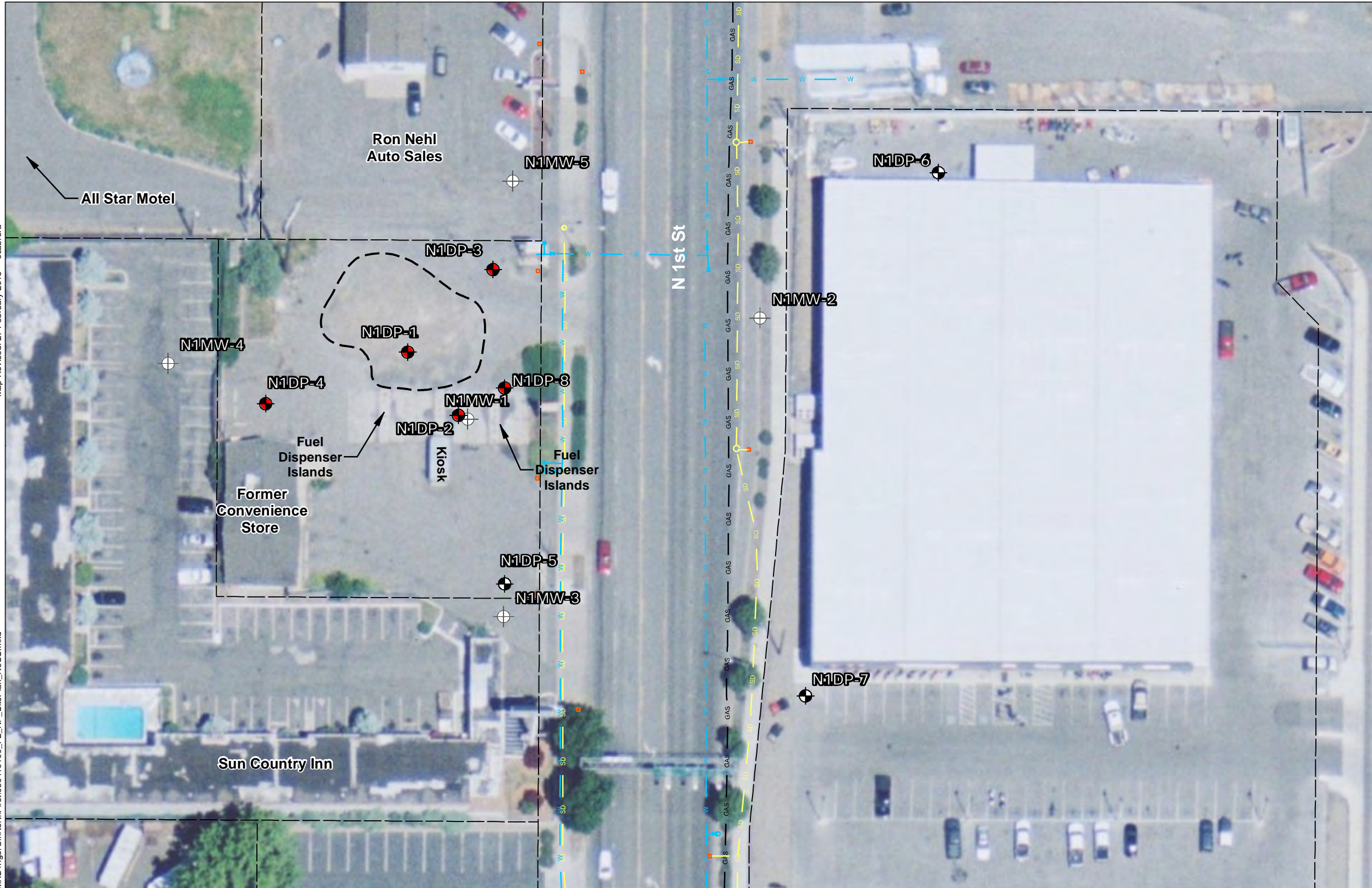


Notes:
 1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.
 GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
 Data Sources: ESRI Data & Maps, Street Maps 2008.
 Base map from ESRI Data Online.
 Projection: NAD 1983, UTM Zone 10 North.

Vicinity Map	
Tiger Oil North 1st Yakima, Washington	
	Figure 1

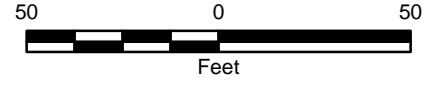
Map Revised: 27 February 2015 ccabrera

Office: POKT Path: P:\0504101_GIS\MXD\TigerOil\North\050410100_F2_NF_SitePlan_NoCS.mxd



Legend

- N1DB-6 Boring Number and Approximate Location
- N1MW-1 Monitoring Well Number and Approximate Location
- GRPH, BTEX, or Naphthalene Concentrations in Soil Greater Than MTCA Method A Cleanup Levels
- Approximate Former Tank Pit Location
- Approximate Parcel Boundary



Data Source: Aerial base from ArcGIS Online.
 Parcel and utility cad base data provided by
 City of Yakima Engineering Department, January 2015.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

Notes:
 1. The locations of all features shown are approximate.
 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document.
 GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Site Plan and Sample Locations

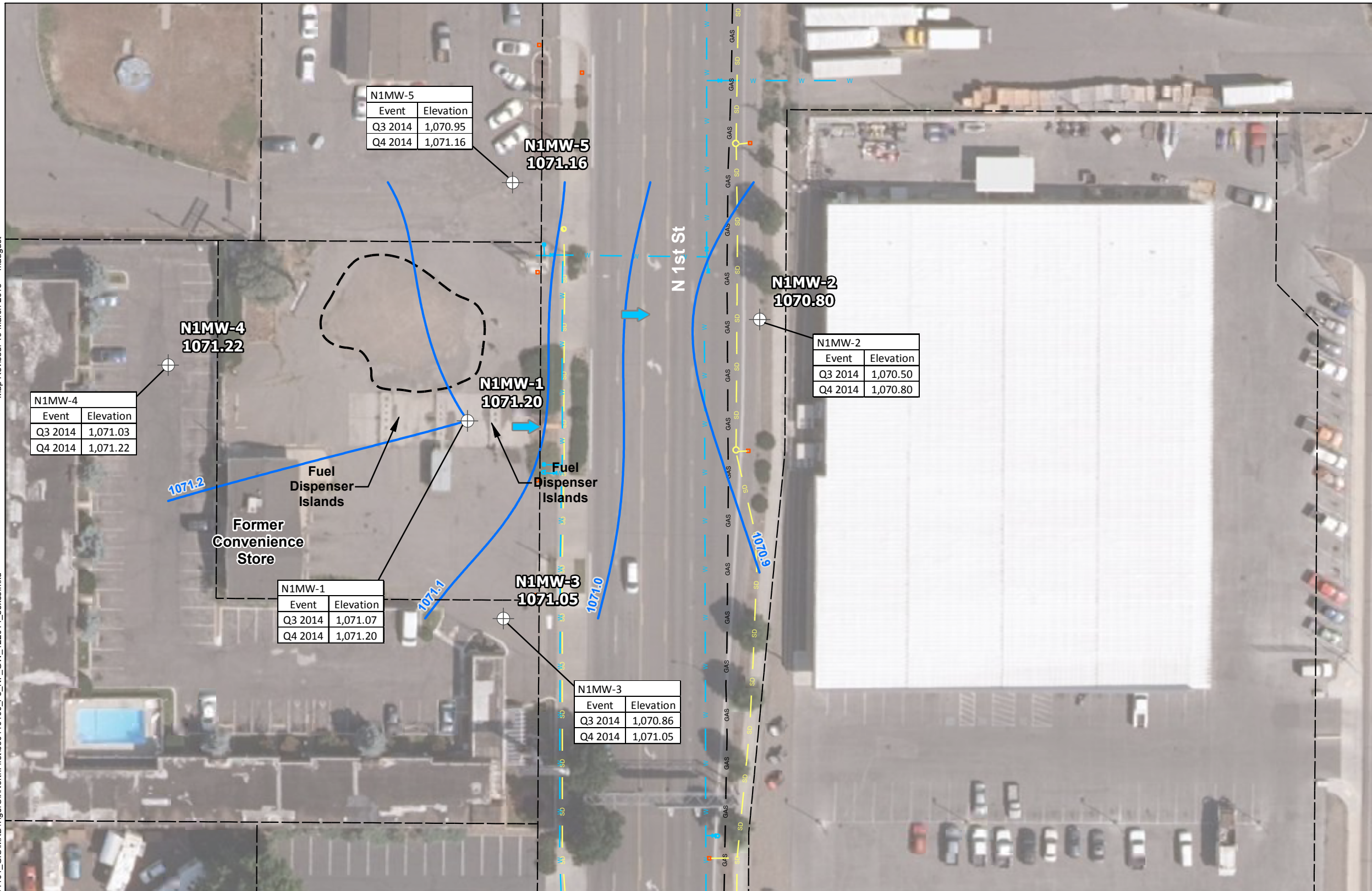
Tiger Oil North 1st
 Yakima, Washington

GEOENGINEERS

Figure 2

Map Revised: 19 March 2015 maugust

Office: PORT Path: \\pdx\projects\0\0504101_GIS\MXD\TigerOil\North1st\050410100_F3_NF_GW_122014_boxes.mxd



N1MW-5	
Event	Elevation
Q3 2014	1,070.95
Q4 2014	1,071.16

N1MW-5
1071.16

N1MW-4	
Event	Elevation
Q3 2014	1,071.03
Q4 2014	1,071.22

N1MW-4
1071.22

N1MW-1	
Event	Elevation
Q3 2014	1,071.07
Q4 2014	1,071.20

N1MW-1
1071.20

N1MW-3	
Event	Elevation
Q3 2014	1,070.86
Q4 2014	1,071.05

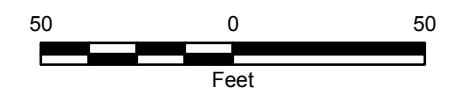
N1MW-3
1071.05

N1MW-2	
Event	Elevation
Q3 2014	1,070.50
Q4 2014	1,070.80

N1MW-2
1070.80

Legend

- N1MW-1** (1071.20) Approximate Groundwater Monitoring Well Location and Groundwater Elevation on December 11, 2014
- Estimated Groundwater Flow Direction
- Approximate Groundwater Elevation Contours (0.1-foot Interval)
- Approximate Former Tank Pit Location
- Approximate Parcel Boundary



Data Source: Aerial base from ArcGIS Online.
Parcel and utility cad base data provided by City of Yakima Engineering Department, January 2015.

Projection: NAD 1983 StatePlane Washington South FIPS 4602 Feet

- Notes:
- The locations of all features shown are approximate.
 - This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
 - Groundwater elevations are referred to the North American Vertical Datum of 1988 (NAVD 88).
 - Groundwater elevations contours interpreted by Surfer Version 12.

Groundwater Elevation and Interpreted Flow Direction, December 11, 2014

Tiger Oil North 1st
Yakima, Washington



Figure 3

APPENDIX A

Field Procedures

APPENDIX A FIELD PROCEDURES

General

Groundwater conditions at the Tiger Oil North 1st site were monitored on December 11, 2014 by measuring depth to groundwater and sampling groundwater in monitoring wells N1MW-1 through N1MW-5, which are situated at the approximate locations shown on Figure 3. Field methods generally were performed in compliance with the project Work Plan dated April 15, 2014 (GeoEngineers, 2014a).

Groundwater Elevations

Depths to groundwater were measured relative to the north side of the monitoring well casing rim using an electric water level indicator. The probe of the water level indicator was decontaminated between wells using a detergent wash, followed by two distilled water rinses.

Low-Flow Sampling Procedures

Groundwater sampling was performed consistent with the EPA's low-flow groundwater sampling procedure, as described by EPA (1996) and Puls and Barcelona (1996). Monitoring well purging and sampling activities were accomplished using a Cole-Parmer Masterflex or GeoTech Environmental peristaltic pump and dedicated tubing. During purging activities, water quality parameters, including pH, conductivity, temperature, ORP and DO, were measured using a Troll 9500 multi-parameter meter equipped with a flow-through cell. Water quality measurements were recorded approximately every 3 minutes. The meter calibration was verified at the beginning of each work day consistent with manufacturer recommendations prior to purging and sampling activities.

Groundwater samples were collected after (1) water quality parameters had stabilized; or (2) a maximum purge time of 30 minutes was achieved. During purging and sampling, purge rate was not allowed to exceed 500 milliliters per minute. Water quality parameter stabilization criteria include the following:

- Turbidity: ± 10 percent for values greater than 5 nephelometric turbidity units (NTU);
- DO: ± 10 percent for values greater than 0.5 mg/L;
- Conductivity: ± 3 percent;
- Temperature: ± 3 percent; and
- ORP: ± 10 millivolts (mV).

After groundwater quality stabilization criteria or maximum purge time were reached, the pump's discharge tubing was disconnected from the flow-through cell and groundwater samples were collected for analysis. Each sample was pumped directly into sample containers supplied by the laboratory. Groundwater samples collected for chemical analysis were kept cool during on-site storage and transport to the laboratory. Chain-of-custody procedures were observed during transport of the groundwater samples.

APPENDIX B
**Chemical Analytical Laboratory Report and Data
Validation**

APPENDIX B CHEMICAL ANALYTICAL LABORATORY REPORT AND DATA VALIDATION

General

This report documents the results of a United States EPA-defined Stage 2A data validation (EPA Document 540-R-08-005; EPA, 2009) of analytical data from the analyses of groundwater samples collected as part of the December 2014 sampling event, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the Tiger Oil, North 1st Street Site located at 1808 North 1st Street in Yakima, Washington.

OBJECTIVE AND QUALITY CONTROL ELEMENTS

GeoEngineers completed the data validation consistent with the EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (EPA, 2008) and Inorganic Superfund Data Review (EPA, 2010) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The QA/QC procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with Quality Assurance Project Plan (Appendix A of the Sampling and Analysis Plan, Soil and Groundwater Assessment; GeoEngineers, 2014a), the data validation included review of the following QC elements:

- Data package completeness
- Chain-of-custody documentation
- Holding times and sample preservation
- Surrogate recoveries
- Method blanks
- Matrix spikes (MS)/matrix spike duplicates (MSD)
- Laboratory control samples (LCS)/laboratory control sample duplicates (LCSD)
- Laboratory and field duplicates
- Miscellaneous

VALIDATED SAMPLE DELIVERY GROUPS

This data validation included review of the sample delivery group (SDG) listed below in Table B-1.

TABLE B-1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDGs	Samples Validated
SXL0080	MW-1-121114, MW-Dup-121114, MW-2-121114, MW-3-121114, MW-4-121114, MW-5-121114

CHEMICAL ANALYSIS PERFORMED

TestAmerica, located in Spokane, Washington, performed laboratory analyses on the groundwater samples using the following methods:

- Petroleum hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;
- Petroleum hydrocarbons with Silica Gel (SG) Cleanup (NWTPH-Dx/SG) by Method NWTPH-Dx/SG;
- Gas-range hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- VOCs by Method SW8260C;
- EDB by Method SW8011;
- Total metals by Method EPA200.7;
- Anions by Method EPA300.0; and
- TOC by Method SM5310C

DATA VALIDATION SUMMARY

The results for each of the QC elements are summarized below.

Data Package Completeness

TestAmerica provided all required deliverables for the data validation according to the National Functional Guidelines. The laboratory appears to have followed adequate corrective action processes; however, the laboratory analytical report does not contain a case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical report. The COCs were accurate and complete when submitted to the laboratory.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses. The sample coolers arrived at the laboratory within the appropriate temperatures of between 2 and 6 degrees Celsius.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added

to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. All surrogate percent recoveries for field samples were within the laboratory control limits.

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in any of the method blanks.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a MS analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. MSD analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

For inorganic methods, the matrix spike is followed by a post-digestion spike sample if any element percent recoveries were outside the control limits in the matrix spike. The percent recovery control limits for matrix spikes are 75 percent to 125 percent.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A LCS is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exception:

- SDG SXL0080: (VOCs) The percent recovery for dichlorodifluoromethane was greater than the control limits in the LCS extracted on December 16, 2014. There were no positive results for this target analyte in the associated field samples; therefore, no action was required for this outlier.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. For organic analyses, the RPD control limits are specified in the laboratory documents. For inorganic analyses, the RPD control limit 20 percent. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met.

Field Duplicates

In order to assess precision, field duplicate samples are collected and analyzed along with the reviewed sample batches. The duplicate samples are analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample, then the absolute difference is used instead of the RPD. The RPD control limit is 20 percent.

SDG SXL0080: One field duplicate sample pair, MW-1-121114 and MW-Dup-121114, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair.

Miscellaneous

SDG SXL0080: (NWTPH-Dx and NWTPH-Dx/SG) For Sample MW-2-121114, the laboratory flagged the diesel-range hydrocarbons result with “Q5”, indicating that the diesel-range hydrocarbons result was being influenced by the relative concentration of gasoline-range hydrocarbons in the sample. For this reason, the positive result for diesel-range hydrocarbons was qualified as estimated (J) in this sample, in order to signify a potential high bias.

OVERALL ASSESSMENT

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values, with the exception noted above. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory/field duplicate RPD values.

All data are acceptable for the intended use, with the following qualifications listed below in Table B-2.

TABLE B-2: SUMMARY OF QUALIFIED SAMPLES

Sample ID	Analyte	Qualifier	Result
MW-2-121114	Diesel-range hydrocarbons	J	Other

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

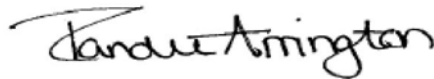
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Spokane
11922 East 1st. Avenue
Spokane, WA 99206
Tel: (509)924-9200

TestAmerica Job ID: SXL0080
Client Project/Site: 0504-101-00
Client Project Description: Tiger Oil- North 1st

For:
Geo Engineers - Spokane
523 East Second Ave.
Spokane, WA 99202

Attn: JR Sugalski



Authorized for release by:
12/31/2014 9:25:11 AM

Randee Arrington, Project Manager
(509)924-9200
Randee.Arrington@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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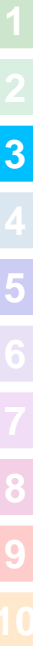
Cover Page	1
Table of Contents	2
Sample Summary	3
Definitions	4
Client Sample Results	5
QC Sample Results	19
Chronicle	27
Certification Summary	31
Method Summary	32
Chain of Custody	33

Sample Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SXL0080-01	MW-1-121114	Water	12/11/14 14:06	12/12/14 09:10
SXL0080-02	MW-2-121114	Water	12/11/14 11:41	12/12/14 09:10
SXL0080-03	MW-3-121114	Water	12/11/14 12:53	12/12/14 09:10
SXL0080-04	MW-4-121114	Water	12/11/14 12:18	12/12/14 09:10
SXL0080-05	MW-5-121114	Water	12/11/14 13:27	12/12/14 09:10
SXL0080-06	MW-Dup-121114	Water	12/11/14 12:00	12/12/14 09:10
SXL0091-01	MW-1-121114	Water	12/11/14 14:06	12/12/14 14:50
SXL0091-02	MW-2-121114	Water	12/11/14 11:41	12/12/14 14:50
SXL0091-03	MW-3-121114	Water	12/11/14 12:53	12/12/14 14:50
SXL0091-04	MW-4-121114	Water	12/11/14 12:18	12/12/14 14:50
SXL0091-05	MW-5-121114	Water	12/11/14 13:27	12/12/14 14:50
SXL0091-06	MW-Dup-121114	Water	12/11/14 12:00	12/12/14 14:50



Definitions/Glossary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.

Fuels

Qualifier	Qualifier Description
Q5	Results in the diesel organics range are primarily due to overlap from a gasoline range product.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0080-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.610		0.200		mg/L		12/12/14 09:27	12/12/14 09:51	1.00
Sulfate	7.90		0.500		mg/L		12/12/14 09:27	12/12/14 09:51	1.00

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0080-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/L		12/12/14 09:27	12/12/14 10:05	1.00
Sulfate	5.50		0.500		mg/L		12/12/14 09:27	12/12/14 10:05	1.00

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0080-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.740		0.200		mg/L		12/12/14 09:27	12/12/14 10:19	1.00
Sulfate	8.25		0.500		mg/L		12/12/14 09:27	12/12/14 10:19	1.00

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0080-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.620		0.200		mg/L		12/12/14 09:27	12/12/14 10:33	1.00
Sulfate	6.92		0.500		mg/L		12/12/14 09:27	12/12/14 10:33	1.00

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0080-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.350		0.200		mg/L		12/12/14 09:27	12/12/14 10:48	1.00
Sulfate	9.25		0.500		mg/L		12/12/14 09:27	12/12/14 10:48	1.00

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0080-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 09:10

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	0.550		0.200		mg/L		12/12/14 09:27	12/12/14 11:02	1.00
Sulfate	7.81		0.500		mg/L		12/12/14 09:27	12/12/14 11:02	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0091-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
n-Propylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0091-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
sec-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:25	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	103		71.2 - 143	12/16/14 08:55	12/16/14 12:25	1.00
1,2-dichloroethane-d4	109		70 - 140	12/16/14 08:55	12/16/14 12:25	1.00
Toluene-d8	95.3		74.1 - 135	12/16/14 08:55	12/16/14 12:25	1.00
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 12:25	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 12:25	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 12:25	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 19:31	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.233		mg/L		12/16/14 12:01	12/16/14 23:06	1.00
Heavy Oil Range Hydrocarbons	ND		0.388		mg/L		12/16/14 12:01	12/16/14 23:06	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91.4		50 - 150	12/16/14 12:01	12/16/14 23:06	1.00
n-Triacontane-d62	97.1		50 - 150	12/16/14 12:01	12/16/14 23:06	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:05	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0091-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 14:50

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.05		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0091-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
2-Butanone	16.2		10.0		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0091-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Isopropylbenzene	4.59		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
n-Propylbenzene	2.56		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
sec-Butylbenzene	3.24		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 12:48	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	101		71.2 - 143	12/16/14 08:55	12/16/14 12:48	1.00
1,2-dichloroethane-d4	109		70 - 140	12/16/14 08:55	12/16/14 12:48	1.00
Toluene-d8	91.3		74.1 - 135	12/16/14 08:55	12/16/14 12:48	1.00
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 12:48	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	372		100		ug/L		12/16/14 08:55	12/16/14 12:48	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 12:48	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 18:34	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	0.247	Q5	0.230		mg/L		12/16/14 12:01	12/17/14 16:30	1.00
Heavy Oil Range Hydrocarbons	ND		0.383		mg/L		12/16/14 12:01	12/17/14 16:30	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	98.1		50 - 150	12/16/14 12:01	12/17/14 16:30	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0091-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 14:50

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Triacontane-d62	98.9		50 - 150	12/16/14 12:01	12/17/14 16:30	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	0.269	Q5	0.230		mg/L		12/16/14 12:01	12/16/14 23:29	1.00
Heavy Oil Range Hydrocarbons	ND		0.383		mg/L		12/16/14 12:01	12/16/14 23:29	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	92.3		50 - 150	12/16/14 12:01	12/16/14 23:29	1.00
n-Triacontane-d62	100		50 - 150	12/16/14 12:01	12/16/14 23:29	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:07	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.41		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0091-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:10	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0091-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
n-Propylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
sec-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane	102		71.2 - 143				12/16/14 08:55	12/16/14 13:10	1.00
1,2-dichloroethane-d4	109		70 - 140				12/16/14 08:55	12/16/14 13:10	1.00
Toluene-d8	98.3		74.1 - 135				12/16/14 08:55	12/16/14 13:10	1.00
4-bromofluorobenzene	98.3		68.7 - 141				12/16/14 08:55	12/16/14 13:10	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0091-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 14:50

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 13:10	1.00
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
4-bromofluorobenzene	98.3		68.7 - 141				12/16/14 08:55	12/16/14 13:10	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 18:48	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.234		mg/L		12/16/14 12:01	12/16/14 23:53	1.00
Heavy Oil Range Hydrocarbons	ND		0.389		mg/L		12/16/14 12:01	12/16/14 23:53	1.00
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>o-Terphenyl</i>	87.0		50 - 150				12/16/14 12:01	12/16/14 23:53	1.00
<i>n-Triacontane-d62</i>	93.3		50 - 150				12/16/14 12:01	12/16/14 23:53	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:10	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0091-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0091-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
n-Propylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
sec-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:32	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0091-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 14:50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	102		71.2 - 143	12/16/14 08:55	12/16/14 13:32	1.00
1,2-dichloroethane-d4	113		70 - 140	12/16/14 08:55	12/16/14 13:32	1.00
Toluene-d8	97.0		74.1 - 135	12/16/14 08:55	12/16/14 13:32	1.00
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 13:32	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 13:32	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	101		68.7 - 141	12/16/14 08:55	12/16/14 13:32	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 19:03	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.232		mg/L		12/16/14 12:01	12/17/14 00:16	1.00
Heavy Oil Range Hydrocarbons	ND		0.387		mg/L		12/16/14 12:01	12/17/14 00:16	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	91.2		50 - 150	12/16/14 12:01	12/17/14 00:16	1.00
n-Triacontane-d62	98.0		50 - 150	12/16/14 12:01	12/17/14 00:16	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:13	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0091-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0091-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
n-Propylbenzene	1.78		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
sec-Butylbenzene	1.21		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0091-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane	100		71.2 - 143				12/16/14 08:55	12/16/14 13:55	1.00
1,2-dichloroethane-d4	109		70 - 140				12/16/14 08:55	12/16/14 13:55	1.00
Toluene-d8	94.9		74.1 - 135				12/16/14 08:55	12/16/14 13:55	1.00
4-bromofluorobenzene	99.4		68.7 - 141				12/16/14 08:55	12/16/14 13:55	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 13:55	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	99.4		68.7 - 141				12/16/14 08:55	12/16/14 13:55	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 19:17	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.234		mg/L		12/16/14 12:01	12/17/14 01:02	1.00
Heavy Oil Range Hydrocarbons	ND		0.391		mg/L		12/16/14 12:01	12/17/14 01:02	1.00
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	93.1		50 - 150				12/16/14 12:01	12/17/14 01:02	1.00
n-Triacontane-d62	100		50 - 150				12/16/14 12:01	12/17/14 01:02	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:15	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.09		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0091-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0091-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
n-Propylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00

TestAmerica Spokane

Client Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0091-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 14:50

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
sec-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 14:17	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	101		71.2 - 143	12/16/14 08:55	12/16/14 14:17	1.00
1,2-dichloroethane-d4	116		70 - 140	12/16/14 08:55	12/16/14 14:17	1.00
Toluene-d8	95.1		74.1 - 135	12/16/14 08:55	12/16/14 14:17	1.00
4-bromofluorobenzene	103		68.7 - 141	12/16/14 08:55	12/16/14 14:17	1.00

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 14:17	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	103		68.7 - 141	12/16/14 08:55	12/16/14 14:17	1.00

Method: EPA 8011 - EDB by EPA Method 8011

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/15/14 19:31	1.00

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.232		mg/L		12/16/14 12:01	12/17/14 01:26	1.00
Heavy Oil Range Hydrocarbons	ND		0.386		mg/L		12/16/14 12:01	12/17/14 01:26	1.00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	89.8		50 - 150	12/16/14 12:01	12/17/14 01:26	1.00
n-Triacontane-d62	96.5		50 - 150	12/16/14 12:01	12/17/14 01:26	1.00

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 17:18	1.00

Method: SM 5310C - TOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.05		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C

Lab Sample ID: 14L0088-BLK1

Matrix: Water

Analysis Batch: 14L0088

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 14L0088_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	L	1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Chloromethane	ND		3.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Vinyl chloride	ND		0.200		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Bromomethane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Chloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Trichlorofluoromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Dichlorofluoromethane	ND		0.200		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Carbon disulfide	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Methylene chloride	ND		10.0		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Acetone	ND		25.0		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
trans-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Methyl tert-butyl ether	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1,2-Trichlorotrifluoroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1-Dichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
cis-1,2-Dichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
2,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Bromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Chloroform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Carbon tetrachloride	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1,1-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
2-Butanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Hexane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Benzene	ND		0.200		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2-Dichloroethane (EDC)	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Trichloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Dibromomethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Bromodichloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
cis-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Toluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
4-Methyl-2-pentanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
trans-1,3-Dichloropropene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Tetrachloroethene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1,2-Trichloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Dibromochloromethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,3-Dichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2-Dibromoethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
2-Hexanone	ND		10.0		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Ethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Chlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1,1,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
m,p-Xylene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
o-Xylene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Styrene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Bromoform	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Isopropylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Lab Sample ID: 14L0088-BLK1

Matrix: Water

Analysis Batch: 14L0088

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 14L0088_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Propylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,1,2,2-Tetrachloroethane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Bromobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,3,5-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
2-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2,3-Trichloropropane	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
4-Chlorotoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
tert-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2,4-Trimethylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
sec-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
p-Isopropyltoluene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,3-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,4-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
n-Butylbenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2-Dichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2-Dibromo-3-chloropropane	ND		5.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Hexachlorobutadiene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2,4-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
Naphthalene	ND		2.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00
1,2,3-Trichlorobenzene	ND		1.00		ug/L		12/16/14 08:55	12/16/14 09:49	1.00

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	101		71.2 - 143	12/16/14 08:55	12/16/14 09:49	1.00
1,2-dichloroethane-d4	105		70 - 140	12/16/14 08:55	12/16/14 09:49	1.00
Toluene-d8	99.5		74.1 - 135	12/16/14 08:55	12/16/14 09:49	1.00
4-bromofluorobenzene	103		68.7 - 141	12/16/14 08:55	12/16/14 09:49	1.00

Lab Sample ID: 14L0088-BS1

Matrix: Water

Analysis Batch: 14L0088

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 14L0088_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	14.4	L	ug/L		144	60 - 140
Chloromethane	10.0	12.4		ug/L		124	60 - 140
Vinyl chloride	10.0	11.9		ug/L		119	60 - 140
Bromomethane	10.0	12.7		ug/L		127	60 - 140
Chloroethane	10.0	12.2		ug/L		122	60 - 140
Trichlorofluoromethane	10.0	12.0		ug/L		120	60 - 140
1,1-Dichloroethene	10.0	12.2		ug/L		122	78.1 - 155
Dichlorofluoromethane	10.0	11.9		ug/L		119	60 - 140
Carbon disulfide	10.0	11.9		ug/L		119	60 - 140
Methylene chloride	10.0	8.54		ug/L		85.4	60 - 140
Acetone	50.0	52.0		ug/L		104	60 - 140
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	60 - 140
Methyl tert-butyl ether	10.0	11.1		ug/L		111	80.1 - 128
1,1,2-Trichlorotrifluoroethane	10.0	11.4		ug/L		114	60 - 140
1,1-Dichloroethane	10.0	11.4		ug/L		114	60 - 140
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	60 - 140

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Lab Sample ID: 14L0088-BS1

Matrix: Water

Analysis Batch: 14L0088

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 14L0088_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	10.0	12.4		ug/L		124	60 - 140
Bromochloromethane	10.0	11.3		ug/L		113	60 - 140
Chloroform	10.0	11.4		ug/L		114	60 - 140
Carbon tetrachloride	10.0	11.0		ug/L		110	60 - 140
1,1,1-Trichloroethane	10.0	10.9		ug/L		109	60 - 140
2-Butanone	50.0	48.7		ug/L		97.4	60 - 140
Hexane	10.0	10.6		ug/L		106	60 - 140
1,1-Dichloropropene	10.0	11.7		ug/L		117	60 - 140
Benzene	10.0	10.8		ug/L		108	80 - 122
1,2-Dichloroethane (EDC)	10.0	12.1		ug/L		121	63.9 - 144
Trichloroethene	10.0	10.2		ug/L		102	74.8 - 123
Dibromomethane	10.0	10.9		ug/L		109	60 - 140
1,2-Dichloropropane	10.0	11.0		ug/L		110	60 - 140
Bromodichloromethane	10.0	11.5		ug/L		115	60 - 140
cis-1,3-Dichloropropene	10.0	11.1		ug/L		111	60 - 140
Toluene	10.0	9.96		ug/L		99.6	80 - 123
4-Methyl-2-pentanone	50.0	50.3		ug/L		101	60 - 140
trans-1,3-Dichloropropene	10.0	10.5		ug/L		105	60 - 140
Tetrachloroethene	10.0	10.4		ug/L		104	60 - 140
1,1,2-Trichloroethane	10.0	10.6		ug/L		106	60 - 140
Dibromochloromethane	10.0	11.3		ug/L		113	60 - 140
1,3-Dichloropropane	10.0	10.8		ug/L		108	60 - 140
1,2-Dibromoethane	10.0	10.2		ug/L		102	70 - 130
2-Hexanone	50.0	47.8		ug/L		95.5	60 - 140
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
Chlorobenzene	10.0	10.4		ug/L		104	79.2 - 125
1,1,1,2-Tetrachloroethane	10.0	11.0		ug/L		110	60 - 140
m,p-Xylene	10.0	10.1		ug/L		101	80 - 120
o-Xylene	10.0	10.5		ug/L		105	80 - 120
Styrene	10.0	10.5		ug/L		105	60 - 140
Bromoform	10.0	9.61		ug/L		96.1	60 - 140
Isopropylbenzene	10.0	10.6		ug/L		106	60 - 140
n-Propylbenzene	10.0	10.5		ug/L		105	60 - 140
1,1,2,2-Tetrachloroethane	10.0	10.5		ug/L		105	60 - 140
Bromobenzene	10.0	10.6		ug/L		106	60 - 140
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	60 - 140
2-Chlorotoluene	10.0	10.7		ug/L		107	60 - 140
1,2,3-Trichloropropane	10.0	9.48		ug/L		94.8	60 - 140
4-Chlorotoluene	10.0	10.9		ug/L		109	60 - 140
tert-Butylbenzene	10.0	10.4		ug/L		104	60 - 140
1,2,4-Trimethylbenzene	10.0	10.1		ug/L		101	60 - 140
sec-Butylbenzene	10.0	10.1		ug/L		101	60 - 140
p-Isopropyltoluene	10.0	10.1		ug/L		101	60 - 140
1,3-Dichlorobenzene	10.0	10.8		ug/L		108	60 - 140
1,4-Dichlorobenzene	10.0	10.5		ug/L		105	60 - 140
n-Butylbenzene	10.0	10.4		ug/L		104	60 - 140
1,2-Dichlorobenzene	10.0	10.9		ug/L		109	60 - 140
1,2-Dibromo-3-chloropropane	10.0	10.1		ug/L		101	60 - 140

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 8260C - Volatile Organic Compounds by EPA Method 8260C (Continued)

Lab Sample ID: 14L0088-BS1
Matrix: Water
Analysis Batch: 14L0088

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0088_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Hexachlorobutadiene	10.0	9.62		ug/L		96.2	60 - 140
1,2,4-Trichlorobenzene	10.0	9.04		ug/L		90.4	60 - 140
Naphthalene	10.0	9.20		ug/L		92.0	62.8 - 132
1,2,3-Trichlorobenzene	10.0	9.13		ug/L		91.3	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	101		71.2 - 143
1,2-dichloroethane-d4	111		70 - 140
Toluene-d8	96.9		74.1 - 135
4-bromofluorobenzene	99.1		68.7 - 141

Method: NWTPH-Gx - Gasoline Hydrocarbons by NWTPH-Gx

Lab Sample ID: 14L0088-BLK1
Matrix: Water
Analysis Batch: 14L0088

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0088_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Hydrocarbons	ND		100		ug/L		12/16/14 08:55	12/16/14 09:49	1.00

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-bromofluorobenzene	103		68.7 - 141	12/16/14 08:55	12/16/14 09:49	1.00

Lab Sample ID: 14L0088-BS2
Matrix: Water
Analysis Batch: 14L0088

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0088_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Gasoline Range Hydrocarbons	1000	840		ug/L		84.0	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-bromofluorobenzene	94.7		68.7 - 141

Method: EPA 8011 - EDB by EPA Method 8011

Lab Sample ID: 14L0079-BLK1
Matrix: Water
Analysis Batch: 14L0079

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0079_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.0100		ug/L		12/15/14 08:27	12/16/14 10:33	1.00
1,2-Dibromo-3-chloropropane	ND		0.0100		ug/L		12/15/14 08:27	12/16/14 10:33	1.00

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 8011 - EDB by EPA Method 8011 (Continued)

Lab Sample ID: 14L0079-BS1
Matrix: Water
Analysis Batch: 14L0079

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0079_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	0.125	0.154		ug/L		123	60 - 140
1,2-Dibromo-3-chloropropane	0.125	0.171		ug/L		137	60 - 140

Lab Sample ID: 14L0079-BS2
Matrix: Water
Analysis Batch: 14L0079

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0079_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromoethane	0.125	0.146		ug/L		117	60 - 140
1,2-Dibromo-3-chloropropane	0.125	0.124		ug/L		99.2	60 - 140

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup

Lab Sample ID: 14L0093-BLK1
Matrix: Water
Analysis Batch: 14L0093

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0093_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.240		mg/L		12/16/14 12:01	12/17/14 16:07	1.00
Heavy Oil Range Hydrocarbons	ND		0.400		mg/L		12/16/14 12:01	12/17/14 16:07	1.00
Surrogate	Blank %Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	81.4		50 - 150				12/16/14 12:01	12/17/14 16:07	1.00
<i>n</i> -Triacontane-d62	98.9		50 - 150				12/16/14 12:01	12/17/14 16:07	1.00

Lab Sample ID: 14L0093-BS1
Matrix: Water
Analysis Batch: 14L0093

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0093_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Hydrocarbons	3.20	2.07		mg/L		64.6	50 - 150
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl	90.9		50 - 150				
<i>n</i> -Triacontane-d62	103		50 - 150				

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx

Lab Sample ID: 14L0093-BLK1
Matrix: Water
Analysis Batch: 14L0093

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0093_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Hydrocarbons	ND		0.240		mg/L		12/16/14 12:01	12/16/14 20:47	1.00
Heavy Oil Range Hydrocarbons	ND		0.400		mg/L		12/16/14 12:01	12/16/14 20:47	1.00

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: NWTPH-Dx - Semivolatile Petroleum Products by NWTPH-Dx (Continued)

Lab Sample ID: 14L0093-BLK1
Matrix: Water
Analysis Batch: 14L0093

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0093_P

Surrogate	Blank		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>o</i> -Terphenyl	81.0		50 - 150	12/16/14 12:01	12/16/14 20:47	1.00
<i>n</i> -Triacontane-d62	101		50 - 150	12/16/14 12:01	12/16/14 20:47	1.00

Lab Sample ID: 14L0093-BS1
Matrix: Water
Analysis Batch: 14L0093

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0093_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Hydrocarbons	3.20	1.90		mg/L		59.4	50 - 150

Surrogate	LCS		Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	88.5		50 - 150
<i>n</i> -Triacontane-d62	101		50 - 150

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods

Lab Sample ID: 14L0117-BLK1
Matrix: Water
Analysis Batch: 14L0117

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0117_P

Analyte	Blank		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.0140		mg/L		12/18/14 14:54	12/23/14 16:37	1.00

Lab Sample ID: 14L0117-BS1
Matrix: Water
Analysis Batch: 14L0117

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0117_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.00	1.03		mg/L		103	85 - 115

Lab Sample ID: 14L0117-MS1
Matrix: Water
Analysis Batch: 14L0117

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 14L0117_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		1.00	1.01		mg/L		101	70 - 130

Lab Sample ID: 14L0117-MSD1
Matrix: Water
Analysis Batch: 14L0117

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 14L0117_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		1.00	0.995		mg/L		99.5	70 - 130	1.97	20

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: EPA 200.7 - Total Metals by EPA 200 Series Methods (Continued)

Lab Sample ID: 14L0117-DUP1
Matrix: Water
Analysis Batch: 14L0117

Client Sample ID: Duplicate
Prep Type: Total
Prep Batch: 14L0117_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	Limit
Lead	ND		ND		mg/L			20

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 14L0074-BLK1
Matrix: Water
Analysis Batch: 14L0074

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 14L0074_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/L		12/12/14 09:27	12/12/14 11:31	1.00
Sulfate	ND		0.500		mg/L		12/12/14 09:27	12/12/14 11:31	1.00

Lab Sample ID: 14L0074-BS1
Matrix: Water
Analysis Batch: 14L0074

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 14L0074_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	4.90		mg/L		98.0	90 - 110
Sulfate	12.5	12.5		mg/L		99.8	90 - 110

Lab Sample ID: 14L0074-MS1
Matrix: Water
Analysis Batch: 14L0074

Client Sample ID: MW-1-121114
Prep Type: Total
Prep Batch: 14L0074_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	0.610		5.00	5.58		mg/L		99.3	80 - 120
Sulfate	7.90		12.5	21.3		mg/L		107	80 - 120

Lab Sample ID: 14L0074-MSD1
Matrix: Water
Analysis Batch: 14L0074

Client Sample ID: MW-1-121114
Prep Type: Total
Prep Batch: 14L0074_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Nitrate-Nitrogen	0.610		5.00	5.60		mg/L		99.8	80 - 120	0.394	12.1
Sulfate	7.90		12.5	21.3		mg/L		107	80 - 120	0.155	10

Lab Sample ID: 14L0074-DUP1
Matrix: Water
Analysis Batch: 14L0074

Client Sample ID: MW-1-121114
Prep Type: Total
Prep Batch: 14L0074_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	Limit
Nitrate-Nitrogen	0.610		0.580		mg/L		5.04	13.1
Sulfate	7.90		7.91		mg/L		0.126	15.7

TestAmerica Spokane

QC Sample Results

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Method: SM 5310C - TOC

Lab Sample ID: 214965-1
Matrix: Water
Analysis Batch: 214965

Client Sample ID: Method Blank
Prep Type: Total
Prep Batch: 214965_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1
TOC Result 2	ND		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1
Total Organic Carbon	ND		1.00		mg/L		12/17/14 12:56	12/17/14 12:56	1

Lab Sample ID: 214965-4
Matrix: Water
Analysis Batch: 214965

Client Sample ID: Lab Control Sample
Prep Type: Total
Prep Batch: 214965_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOC Result 1	10.0	9.768		mg/L		98	90 - 110
TOC Result 2	10.0	9.910		mg/L		99	90 - 110
Total Organic Carbon	10.0	9.839		mg/L		98	90 - 110

Lab Sample ID: 214965-10
Matrix: Water
Analysis Batch: 214965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total
Prep Batch: 214965_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	Limits	RPD	Limit
TOC Result 1			20.0	20.78		mg/L		99	75 - 122	0	20
TOC Result 2			20.0	20.87		mg/L		99	75 - 122	1	20
Total Organic Carbon			20.0	20.82		mg/L		99	75 - 122	1	20

Lab Sample ID: 214965-9
Matrix: Water
Analysis Batch: 214965

Client Sample ID: Matrix Spike
Prep Type: Total
Prep Batch: 214965_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	Limits
TOC Result 1			20.0	20.80		mg/L		99	75 - 122
TOC Result 2			20.0	21.11		mg/L		101	75 - 122
Total Organic Carbon			20.0	20.96		mg/L		100	75 - 122

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0080-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 09:51	MS	TAL SPK

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0080-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 10:05	MS	TAL SPK

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0080-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 10:19	MS	TAL SPK

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0080-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 10:33	MS	TAL SPK

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0080-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 10:48	MS	TAL SPK

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0080-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	14L0074_P	12/12/14 09:27	MS	TAL SPK
Total	Analysis	EPA 300.0		1.00	14L0074	12/12/14 11:02	MS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-1-121114

Lab Sample ID: SXL0091-01

Date Collected: 12/11/14 14:06

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 12:25	MS	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 12:25	MS	TAL SPK
Total	Prep	EPA 3580		1.00	14L0079_P	12/15/14 08:27	IAB	TAL SPK
Total	Analysis	EPA 8011		1.00	14L0079	12/15/14 19:31	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.971	14L0093_P	12/16/14 12:01	IAB	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/16/14 23:06	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:05	ICP	TAL SPK
Total	Analysis	SM 5310C		1	214965	12/17/14 12:56	JAB	TAL NSH
Total	Prep	NA			214965_P	12/17/14 12:56		TAL NSH

Client Sample ID: MW-2-121114

Lab Sample ID: SXL0091-02

Date Collected: 12/11/14 11:41

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 12:48	MS	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 12:48	MS	TAL SPK
Total	Prep	EPA 3580		1.00	14L0079_P	12/15/14 08:27	IAB	TAL SPK
Total	Analysis	EPA 8011		1.00	14L0079	12/15/14 18:34	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.958	14L0093_P	12/16/14 12:01	IAB	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/16/14 23:29	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.958	14L0093_P	12/16/14 12:01	NI	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/17/14 16:30	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:07	ICP	TAL SPK

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0091-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 13:10	MS	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 13:10	MS	TAL SPK
Total	Prep	EPA 3580		1.00	14L0079_P	12/15/14 08:27	IAB	TAL SPK
Total	Analysis	EPA 8011		1.00	14L0079	12/15/14 18:48	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.973	14L0093_P	12/16/14 12:01	IAB	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-3-121114

Lab Sample ID: SXL0091-03

Date Collected: 12/11/14 12:53

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/16/14 23:53	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:10	ICP	TAL SPK

Client Sample ID: MW-4-121114

Lab Sample ID: SXL0091-04

Date Collected: 12/11/14 12:18

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 13:32	MS	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 13:32	MS	TAL SPK
Total	Prep	EPA 3580		1.00	14L0079_P	12/15/14 08:27	IAB	TAL SPK
Total	Analysis	EPA 8011		1.00	14L0079	12/15/14 19:03	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.968	14L0093_P	12/16/14 12:01	IAB	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/17/14 00:16	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:13	ICP	TAL SPK

Client Sample ID: MW-5-121114

Lab Sample ID: SXL0091-05

Date Collected: 12/11/14 13:27

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 13:55	MS	TAL SPK
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 13:55	MS	TAL SPK
Total	Prep	EPA 3580		1.00	14L0079_P	12/15/14 08:27	IAB	TAL SPK
Total	Analysis	EPA 8011		1.00	14L0079	12/15/14 19:17	NMI	TAL SPK
Total	Prep	EPA 3510/600 Series		0.977	14L0093_P	12/16/14 12:01	IAB	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/17/14 01:02	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:15	ICP	TAL SPK

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0091-06

Date Collected: 12/11/14 12:00

Matrix: Water

Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	EPA 8260C		1.00	14L0088	12/16/14 14:17	MS	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Client Sample ID: MW-Dup-121114

Lab Sample ID: SXL0091-06

Date Collected: 12/11/14 12:00

Matrix: Water

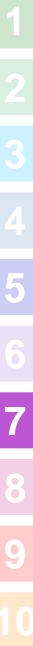
Date Received: 12/12/14 14:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	GC/MS Volatiles		1.00	14L0088_P	12/16/14 08:55	MS	TAL SPK
Total	Analysis	NWTPH-Gx		1.00	14L0088	12/16/14 14:17	MS	TAL SPK
Total	Prep	EPA 3510/600 Series		0.965	14L0093_P	12/16/14 12:01	IAB	TAL SPK
Total	Analysis	NWTPH-Dx		1.00	14L0093	12/17/14 01:26	NMI	TAL SPK
Total	Prep	EPA 3005A		1.00	14L0117_P	12/18/14 14:54	JSP	TAL SPK
Total	Analysis	EPA 200.7		1.00	14L0117	12/23/14 17:18	ICP	TAL SPK

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (800) 765-0980

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200



Certification Summary

Client: Geo Engineers - Spokane
 Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-15
Washington	State Program	10	C569	01-06-15

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-15
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

TestAmerica Spokane

Method Summary

Client: Geo Engineers - Spokane
Project/Site: 0504-101-00

TestAmerica Job ID: SXL0080

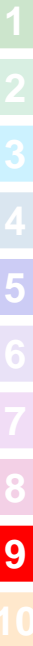
Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by EPA Method 8260C		TAL SPK
NWTPH-Gx	Gasoline Hydrocarbons by NWTPH-Gx		TAL SPK
EPA 8011	EDB by EPA Method 8011		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx w/Silica Gel Cleanup		TAL SPK
NWTPH-Dx	Semivolatile Petroleum Products by NWTPH-Dx		TAL SPK
EPA 200.7	Total Metals by EPA 200 Series Methods		TAL SPK
EPA 300.0	Anions by EPA Method 300.0		TAL SPK
SM 5310C	TOC		TAL NSH

Protocol References:

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (800) 765-0980

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200



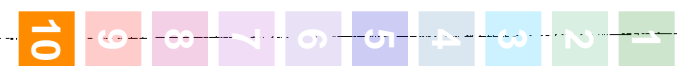
CHAIN OF CUSTODY REPORT

Work Order #: **SX10080**

CLIENT: Geo Engineers			INVOICE TO:			TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. Petroleum Hydrocarbon Analyses <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD.			
REPORT TO: JR Sugalski jsugalski@geoengineers.com			P.O. NUMBER:						
ADDRESS: 523 E Second Ave Spokane WA 99202						<input type="checkbox"/> OTHER Specify:			
PHONE: 509-363-3125 FAX: 509-363-3126						* Turnaround Requests less than standard may incur Rush Charges.			
PROJECT NAME: Tiger Oil - North 1st St.			PRESERVATIVE			MATRIX (W, S, O)			
PROJECT NUMBER: 0504-101-00			REQUESTED ANALYSES			# OF CONT.			
SAMPLED BY: JWR						LOCATION/ COMMENTS			
CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		Nitrate		Sulfate		TA WO ID	
1	MW-1-121114	12/11/14	1406	X	X			W	1
2	MW-2-121114		1141						
3	MW-3-121114		1253						
4	MW-4-121114		1218						
5	MW-5-121114		1327						
6	MW-DUP-121114	✓	1200	✓	✓			✓	✓
7									
8									
9									
10									
RELEASED BY: JR		DATE: 12/11/14		RECEIVED BY: Col Stapleton		DATE: 12-12-14			
PRINT NAME: Justin Rice		FIRM: Geo		TIME: 1515		PRINT NAME: Col Stapleton		FIRM: TestAmerica	
RELEASED BY:		DATE:		RECEIVED BY:		DATE:		TIME:	
PRINT NAME:		FIRM:		PRINT NAME:		FIRM:		TIME:	
ADDITIONAL REMARKS:								TEMP: 1.9	
								PAGE 1 OF 1	

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**TestAmerica Spokane
Sample Receipt Form**

Work Order #: <u>SKL0080</u>	Client: <u>GeoEngineers</u>	Project: <u>Tiger Oil - North</u>		
Date/Time Received: <u>12-12-14 9:10</u>	By: <u>CS</u>			
Samples Delivered By: <input checked="" type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> Other: _____				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue ice <input type="checkbox"/> Gel ice <input checked="" type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other: _____				
Temperature: <u>1.9</u> °C Thermometer (Circle one Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2) (acceptance criteria 0-6				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other: _____				
Log-in Phase	Yes	No	NA	Comments
Date/Time: <u>12-12-14 9:20</u> By: <u>CS</u>				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X			Nitrate
Are any samples within 2 days of or past expiration	X			y
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

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CHAIN OF CUSTODY REPORT

Work Order # **SK0091**

CLIENT: Geofingers		INVOICE TO:		TURNAROUND REQUEST in Business Days*									
REPORT TO: JR Sugalski jsugalski@geoenviron.com		P.O. NUMBER:											
ADDRESS: 523 E Second Ave Spokane WA 99202				<input checked="" type="checkbox"/> Organic & Inorganic Analyses STD. <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1									
PHONE: 509-363-3125 FAX: 509-363-3126				<input checked="" type="checkbox"/> Petroleum Hydrocarbon Analyses STD. <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1									
PROJECT NAME: Tiger Oil North 1st St		PRESERVATIVE		OTHER Specify: <small>* Turnaround Requests less than standard may incur Rush Charges.</small>									
PROJECT NUMBER: 05001-101-00		REQUESTED ANALYSES											
SAMPLED BY: JWR				MATRIX (W, S, O) # OF CONT. LOCATION/ COMMENTS TA WO ID									
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	WAPPH-GP	WAPPH-DX	WAPPH-DX w/Signia gel	VOCs	Wapptow-100 (S1000)	EDS (S1011)	TOC (S1030)	Lead				
1 MW-1-121114	12/11/14	1406	X	X	X	X	X	X	X			W	9
2 MW-2-121114	}	1141	↓	↓	↓	↓	↓	↓	↓			↓	↓
3 MW-3-121114		1253	↓	↓	↓	↓	↓	↓	↓			↓	↓
4 MW-4-121114		1218	↓	↓	↓	↓	↓	↓	↓			↓	↓
5 MW-5-121114		1327	↓	↓	↓	↓	↓	↓	↓			↓	↓
6 MW-Dup-121114		1200	↓	↓	↓	↓	↓	↓	↓			↓	↓
7													
8													
9													
10													
RELEASED BY: JR	FIRM: Geo	DATE: 12/12/14	TIME: 1450	RECEIVED BY: Col Stapleton	FIRM: TestAmerica	DATE: 12-14	TIME: 1400						
PRINT NAME: Justin Rice				PRINT NAME: Col Stapleton									
RELEASED BY:	FIRM:	DATE:	TIME:	RECEIVED BY:	FIRM:	DATE:	TIME:						
PRINT NAME:				PRINT NAME:									
ADDITIONAL REMARKS:											TEMP: 4.7	PAGE 1 OF 1	

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**TestAmerica Spokane
Sample Receipt Form**

Work Order #: JXL0091	Client: GeoEngineers	Project: North 1st St		
Date/Time Received: 12/24 14:50		By: CS		
Samples Delivered By: <input type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> Other:				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input checked="" type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other:				
Temperature: 4.7 °C Thermometer (Circle one Serial #122208348 Keyring IR Serial # 111874910 IR Gun 2) (acceptance criteria 0-6)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other:				
Log-in Phase	Yes	No	NA	Comments
Date/Time: 12/24 13:27 By: CS				
Are sample labels affixed and completed for each container	Y			
Samples containers were received intact:	Y			
Do sample IDs match the CoC	Y			
Appropriate sample containers were received for tests requested	Y			
Are sample volumes adequate for tests requested	Y			
Appropriate preservatives were used for the tests requested	Y			
pH of inorganic samples checked and is within method specification	Y			
Are VOC samples free of bubbles >6mm (1/4" diameter)	Y			
Are dissolved parameters field filtered			Y	
Do any samples need to be filtered or preserved by the lab			Y	
Does this project require quick turnaround analysis		Y		
Are there any short hold time tests (see chart below)		Y		
Are any samples within 2 days of or past expiration		Y		
Was the CoC scanned	Y			
Were there Non-conformance issues at login		Y		
If yes, was a CAR generated #			Y	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012

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APPENDIX C
Report Limitations and Guidelines for Use

APPENDIX C REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This Appendix provides information to help you manage your risks with respect to the use of this report.

Environmental Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for the exclusive use of the Washington State Department of Ecology (Ecology). This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, an environmental site assessment study conducted for a property owner may not fulfill the needs of a prospective purchaser of the same property. Because each environmental study is unique, each environmental report is unique, prepared solely for the specific client and project site. No one except Ecology should rely on this environmental report without first conferring with GeoEngineers. This report should not be applied for any purpose or project except the one originally contemplated.

This Environmental Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the Tiger Oil North 1st site located at 1808 North 1st Street in Yakima, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Reliance Conditions for Third Parties

Our report was prepared for the exclusive use of Ecology. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm and Ecology with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with Ecology and generally accepted environmental practices in this area at the time this report was prepared.

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

Environmental Regulations are Always Evolving

Some substances may be present in the site vicinity in quantities or under conditions that may have led, or may lead, to contamination of the subject site, but are not included in current local, state or federal regulatory definitions of hazardous substances or do not otherwise present current potential liability. GeoEngineers cannot be responsible if the standards for appropriate inquiry, or regulatory definitions of hazardous substance, change or if more stringent environmental standards are developed in the future.

Uncertainty May Remain Even After This Phase II ESA is Completed

No ESA can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from widely-spaced sampling locations. It is always possible that contamination exists in areas that were not explored, sampled or analyzed.

Subsurface Conditions Can Change

This environmental report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, by new releases of hazardous substances, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. Always contact GeoEngineers before applying this report to determine if it is still applicable.

Soil and Groundwater End Use

The cleanup levels referenced in this report are site- and situation-specific. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater). Note that hazardous substances may be present in some of the site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. GeoEngineers should be contacted prior to the export of soil or groundwater from the subject site or reuse of the affected media on site to evaluate the potential for associated environmental liabilities. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the subject site to another location or its reuse on site in instances that we were not aware of or could not control.

Most Environmental Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations and chemical analytical data from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ – sometimes significantly – from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Do Not Redraw the Exploration Logs

Environmental scientists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in an environmental report should never be redrawn for inclusion in other design drawings. Only photographic or electronic reproductions are acceptable, but recognize that separating logs from the report can elevate risk.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering, geology and environmental science) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or site.

Geotechnical, Geologic and Geoenvironmental Reports Should Not be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

Biological Pollutants

GeoEngineers’ Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants and no conclusions or inferences should be drawn regarding Biological Pollutants, as they may relate to this project. The term “Biological Pollutants” includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts.

If Ecology desires these specialized services, they should be obtained from a consultant who offers services in this specialized field.

Have we delivered World Class Client Service?

Please let us know by visiting www.geoengineers.com/feedback.

