December 29, 2016
Project No. 0714.03.01

Dale Myers, Site Manager
Washington State Department of Ecology—Northwest Region
Toxics Cleanup Program
3190 160th Avenue Southeast
Bellevue, WA 98008-5452

Re: Quarterly Groundwater Monitoring Event—November 2016
Former Truck City Truck Stop
3216 Old Highway 99 South, Mt. Vernon, Washington
Facility Site ID: 2673, Cleanup Site ID: 5176, UST ID: 5354

Dear Mr. Myers:

In November 2016, on behalf of Skagit County, Maul Foster & Alongi, Inc. (MFA) conducted the first post-remedial action quarterly groundwater monitoring event at the former Truck City Truck Stop site (the Site), located at 3216 Old Highway 99 South in Mount Vernon, Washington (refer to Figure 1). This event fulfills the quarterly groundwater-monitoring requirement as specified in the Washington State Department of Ecology (Ecology)-approved Groundwater Monitoring Plan (GMP) included as Appendix N of the As-Built Construction Complete Report (MFA, 2016). Monitoring activities were conducted as described in the GMP (MFA, 2015) and in accordance with the monitoring requirements outlined in the Washington State Model Toxics Control Act (MTCA) (Washington Administrative Code 173-340-410). Quarterly groundwater monitoring activities are being performed to assess the effectiveness of a remedial action conducted in accordance with the prospective purchaser consent decree, No. 15-2-00056-2, executed between Ecology and Skagit County.

BACKGROUND

Between August and October 2015, MFA oversaw completion a remedial action at the Site involving the decommissioning and removal of the Site's four former fueling underground storage tanks (USTs) containing diesel and gasoline; excavation and removal of petroleum-contaminated soil (PCS); groundwater dewatering activities; treatment of dewatered fluids; and application of in-situ bioremediation products to clean backfill. These activities were completed to remove and remediate PCS and petroleum-contaminated groundwater at the Site. Figure 2 shows the estimated extent of the remedial action conducted in 2015. Performance groundwater monitoring was scheduled to begin fall of 2016 to allow for

construction of the new Skagit County Jail on the Site and the necessary time for the in-situ bioremediation processes to occur with initial biodegradation of the impacted groundwater.

Groundwater-monitoring results will be evaluated on a quarterly basis to assess the performance and protectiveness of the remedial action by comparing the concentrations of the indicator hazardous substances (IHSs) at the Site's monitoring wells to MTCA Method A cleanup levels (CULs), as outlined in the GMP, and to evaluate ongoing groundwater quality conditions.

MONITORING WELL INSTALLATION

Five monitoring wells (TC-1R, TC-3R, TC-4R, TC-5R, and TC-7) were installed at the Site using a direct push drill rig in October and November 2016 to complete the monitoring well network requirements outlined in the GMP and described below (MFA, 2016). Monitoring wells TC-1R, TC-3R, TC-4R, and TC-5R replaced former monitoring wells that were decommissioned due to their location within the footprint of the new jail facility. Monitoring well TC-7 was installed at a location upgradient of the 2015 remedial action. The two existing wells, TC-2 and TC-6, were installed during the remedial investigation phase in 2014. All monitoring wells were developed or redeveloped at least 24 hours prior to sample collection.

To meet the groundwater monitoring requirements stipulated in WAC 173-340-410, groundwater monitoring activities were conducted at the following types of wells: (1) a monitoring well located upgradient of the known dissolved-phase plume; (2) monitoring wells in the confirmed dissolved-phase plume; and (3) sentry monitoring wells located beyond the leading edge of the dissolved-phase plume (refer to Figure 2).

The groundwater monitoring network at the Site consists of the following site-specific wells:

- Upgradient well: TC-7
- Dissolved-phase-plume monitoring wells: TC-2, TC-3R, TC-4R, and TC-5R
- Sentry wells: TC-1R and TC-6

Construction logs for all monitoring wells are included in Attachment A.

FIELD PROCEDURES

MFA used a water-level probe to measure static water levels in the wells (refer to Table 1). Light nonaqueous-phase liquid (LNAPL) was not encountered during the November 2016 monitoring event.

Groundwater-monitoring and -sampling activities were conducted in general accordance with industry standard sampling protocols and consistent with the sampling and analysis plan

included as an appendix to the GMP (MFA, 2016) with at least one pore volume extracted from the wells and field parameters stabilized before a sample was collected. A field duplicate was collected from monitoring well TC-5R. Depth-to-water measurements at all wells were conducted before groundwater-sampling activities began. Water-quality parameters were measured with a YSI meter (YSI 556MPS) and a turbidity meter (Hach 2100P) before sample collection and were recorded on field sampling data sheets (refer to Attachment B); they are summarized in Table 2. Eight groundwater samples, including a field duplicate, were collected using low-flow sampling techniques using a peristaltic pump and disposable tubing.

Samples were submitted to Friedman & Bruya, Inc. of Seattle, Washington, under standard chain-of-custody procedures. The following analytical methods were used to analyze samples for IHSs, in accordance with the GMP:

- Gasoline-range total petroleum hydrocarbons (TPH) by Northwest Total Petroleum Hydrocarbons Method Gx
- Diesel-range TPH by Northwest Total Petroleum Hydrocarbons Method Dx
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (USEPA) Method 8021B

The following analytical methods were also used to analyze groundwater samples for geochemical parameters at two selected well locations, TC-1R and TC-5R, in accordance with the GMP (MFA, 2016):

- Nitrate by USEPA Method 300.0
- Manganese by USEPA Method 200.8
- Sulfate by USEPA Method 300.0
- Methane by RSK 175

Ferrous iron was measured in the field using Hach test kit (Model IR-18C) at wells TC-1R and TC-5R.

Investigation-derived waste generated during the November 2016 sampling event was properly drummed and labeled, and is temporarily stored on the Site pending characterization for appropriate off-site disposal.

RESULTS AND DISCUSSION

Water-level measurements, final field parameters, groundwater analytical results, and groundwater geochemical parameters are summarized in Tables 1, 2, 3, and 4, respectively. The laboratory analytical report is included as Attachment C. A data validation memorandum, summarizing data evaluation procedures, usability of data, and deviations from field and/or

laboratory methods, is included as Attachment D. Analytical data and the laboratory's internal quality assurance and quality control data were reviewed to assess whether they met data quality objectives. The data were validated and are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

Depth-to-water measurements and groundwater elevations are summarized in Table 1. Groundwater flow direction at the Site during the November 2016 event was generally to the southwest with tangents in the northwest area of the Site towards the southeast (refer to Figure 3). Groundwater flow direction at the Site has varied seasonally from the west-southwest to the south-southeast, as observed during previous groundwater events and investigations by MFA and other consultants. Seasonal groundwater flow direction fluctuations are expected at the Site and vicinity because of the shallow depth to groundwater in the floodplain area. The local and regional discharge points in the area appear to be to the west-southwest, toward Britt Slough and the Skagit River. At its closest points, Britt Slough and the Skagit River are located approximately 0.5 mile and 1.5 mile, respectively, west of the Site. Maddox Creek, located adjacent west of the Site, flows south parallel to Old Highway 99 South; intersects at Hickox Road; and flows west from this intersection.

Concentrations of IHSs were either non-detect or were detected below their respective MTCA Method A CULs at all monitoring wells sampled during the November 2016 monitoring event (refer to Table 3). Groundwater quality field parameters (refer to Table 2) at all monitoring wells and geochemical parameters (refer to Table 4) from two selected monitoring wells located within the plume were reviewed to assess the biodegradation of the dissolved phase petroleum hydrocarbon plume at the Site. Geochemical and field parameters collected within these wells indicate an aerobic environment at the Site as indicated by the levels of dissolved oxygen and oxygen reduction potential values. Other geochemical parameters exhibited for the November 2016 groundwater event, including ferrous iron, sulfate, methane, and manganese will serve as a baseline for comparison to subsequent quarterly groundwater monitoring events. Note: due to a delay in the analysis of nitrate by the laboratory, the reported concentrations of nitrate were from analysis outside of the holding time (refer to DVM in Attachment D). Because the geochemical parameters reported for this groundwater event serve as baseline parameters, analytical results of a single constituent, nitrate, outside of holding time will not impact the overall data evaluation.

SUMMARY

The following is a summary of findings and opinions:

- The direction of groundwater migration at the Site during the November 2016 event appeared to be generally to the southwest.

- LNAPL was not encountered in any monitoring wells during monitoring activities.
- Gasoline-range and motor oil-range TPH, and BTEX concentrations were not detected above analytical reporting limits in any monitoring network wells during this groundwater event.
- Diesel-range TPH concentrations were detected in all monitoring well locations, but at concentrations below the MTCA Method A CUL.
- Geochemical data and field parameters indicates an aerobic subsurface condition. Geochemical values collected during this groundwater event will serve as baseline values for comparison to future groundwater events to evaluate the biodegradation of the dissolved phase petroleum hydrocarbon plume at the Site.

The November 2016 groundwater event is the first quarterly monitoring event at the Site since the completion of remedial action in October 2015. Additional quarterly monitoring events will evaluate the ongoing biodegradation of the dissolved phase petroleum hydrocarbon plume and the hydrogeologic conditions at the Site.

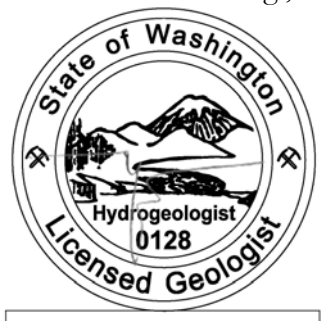
SCHEDULE

In accordance with the GMP (MFA, 2015), the next quarterly monitoring event is scheduled for February 2017.

If you have any questions regarding this letter, please feel free to contact either of us.

Sincerely,

Maul Foster & Alongi, Inc.



Yen-Vy, Van, LHG
Senior Hydrogeologist

Carolyn R. Wise, GIT
Staff Geologist

Attachments: Limitations
References
Figures
Tables
A—Monitoring Well Installation and Boring Logs
B—Water Field Sampling Data Sheets
C—Analytical Laboratory Report
D—Data Validation Memorandum

cc: Marc Estvold, Skagit County

LIMITATIONS

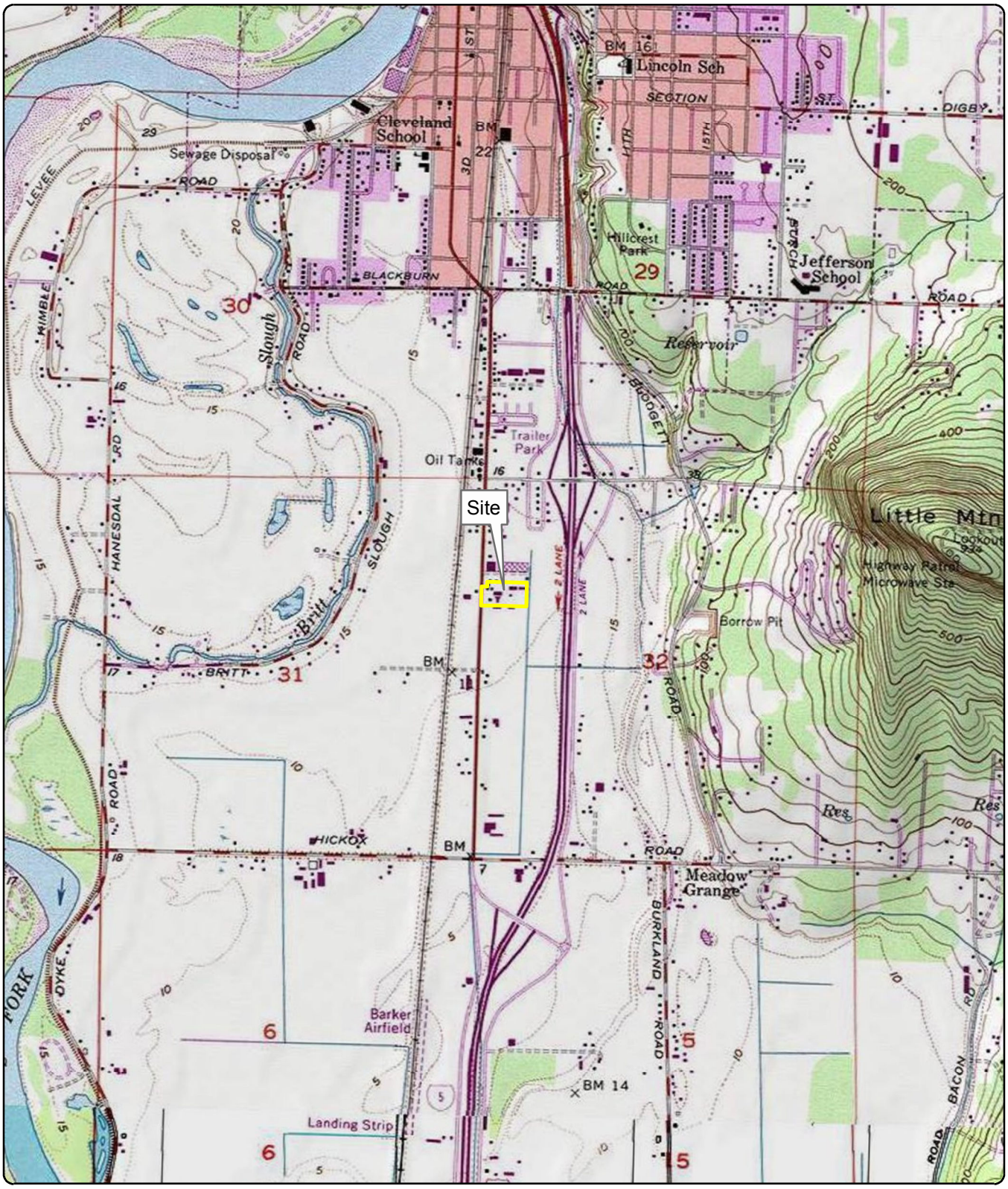
The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

MFA. 2016. As-built construction complete report, former Truck City site, Mount Vernon, Washington. Maul Foster & Alongi, Inc., Bellingham, Washington. January.

FIGURES



Source: US Geological Survey (1990) 7.5-minute
topographic quadrangle: Mount Vernon
Section 32, Township 34 North, Range 4 East

Figure 1
Site Location

Skagit County
Former Truck City Site
Mount Vernon, Washington

0 1,000 2,000
Feet

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Project: 0714.03.01-04 Produced By: cwise Approved By: Yen-Vy Van Print Date: 12/22/2016
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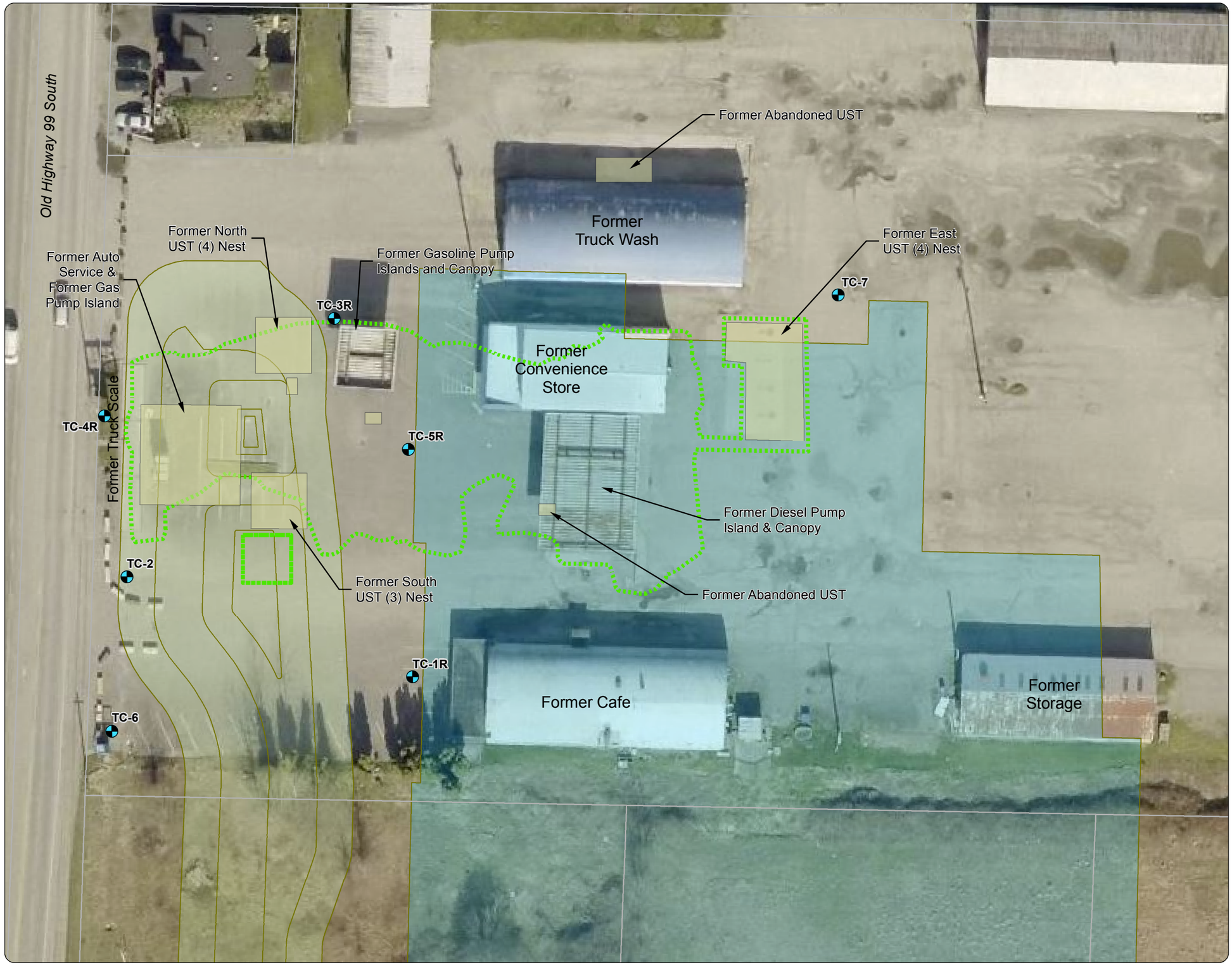
Figure 2
Groundwater Monitoring Well Network

Skagit County
Former Truck City Site
Mount Vernon, Washington



Legend

- Jail Building Footprint
- Jail Facility
- Approximate Remedial Action Extent, 2015
- Monitoring Well

Notes:
1. All features of the former Truck City Site have been demolished and removed. Current site feature is the Skagit County Jail building and asociated features.
2. Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc.
3. Monitoring wells were professionally surveyed by Pacific Geomatic Services in November 2016.

0 20 40
Feet

Source: Aerial photograph (2015) and parcels obtained from Skagit County.

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Project: 0714.03.01-04 Produced By: njones Approved By: yvan Print Date: 12/27/2016

Figure 3
Groundwater Potentiometric Surface
November 2016

Skagit County
Former Truck City Site
Mount Vernon, Washington

Legend

- Water Level Contour
- Monitoring Well (with WLE)
- Jail Building Footprint
- Retention Pond
- Approximate Remedial Action Extent, 2015
- Groundwater Flow Direction

Notes:
1. All features of the former Truck City Site have been demolished and removed. Current site feature is the Skagit County Jail building and asociated features.
2. Site features were digitized from figures prepared by Materials Testing & Consulting, Inc., Associated Environmental Group, LLC, and Applied Geotechnology, Inc.
3. Monitoring wells were professionally surveyed by Pacific Geomatic Services in November 2016.
4. WLE = water level elevation.
5. UST = underground storage tank.

0 20 40
Feet

Source: Aerial photograph (2015) and parcels obtained from Skagit County.

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TABLES

Table 1
Water Level Data
Former Truck City Truck Stop Site
Skagit County
Mount Vernon, Washington

Location	MP Elevation (feet, NAVD 88)	Measurement Date	Depth to Water (feet)	Groundwater Elevation (feet, NAVD 88)
TC-1R	21.51	11/03/2016	10.88	10.63
TC-2	16.99	11/03/2016	6.16	10.83
TC-3R	18.02	11/03/2016	7.36	10.66
TC-4R	17.10	11/03/2016	6.11	10.99
TC-5R	21.62	11/03/2016	10.96	10.66
TC-6	16.53	11/03/2016	5.68	10.85
TC-7	19.58	11/03/2016	8.42	11.16

NOTES:
MP = measuring point. Standard MP is on the north side of the well casing.
NA = not applicable.
NAVD 88 = North American Vertical Datum of 1988.

Table 2
Final Water Quality Field Parameters
Former Truck City Truck Stop Site
Skagit County
Mount Vernon, Washington

Location	Date	pH	Temperature (degrees C)	Conductivity (uS/cm)	DO (mg/L)	ORP	Turbidity (NTU)
TC-1R	11/03/2016	6.76	16.48	1,161	1.22	-182.0	9.74
TC-2	11/03/2016	6.56	17.14	656	1.05	20.8	11.10
TC-3R	11/03/2016	7.12	15.18	1,129	0.92	-106.1	19.90
TC-4R	11/03/2016	6.63	16.00	542	1.41	-13.8	6.17
TC-5R	11/03/2016	7.49	16.09	842	0.57	-186.2	18.60
TC-6	11/03/2016	6.55	16.14	356	0.97	30.4	9.71
TC-7	11/03/2016	6.66	13.39	401	1.58	-95.1	9.22

NOTES:
C = Celsius.
DO = dissolved oxygen.
mg/L = milligrams per liter.
NTU = nephelometric turbidity unit.
ORP = oxygen reduction potential.
uS/cm = microsiemens per centimeter.

Table 3
Summary of Groundwater Analytical Results
Former Truck City Truck Stop Site
Skagit County
Mount Vernon, Washington

Location	Collection Date	Benzene	Ethylbenzene	Toluene	Xylenes, Total	Gasoline TPH[a]	Diesel TPH	Motor Oil TPH	Total TPH[b]
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA Method A Cleanup Level (ug/L)		5	700	1000	1000	800[a]	500	500	500
TC1R	11/03/2016	1 U	1 U	1 U	3 U	100 U	**270**	250 U	**395**
TC2	11/03/2016	1 U	1 U	1 U	3 U	100 U	**54**	250 U	**179**
TC3R	11/03/2016	1 U	1 U	1 U	3 U	100 U	**100**	250 U	**225**
TC4R	11/03/2016	1 U	1 U	1 U	3 U	100 U	**55**	250 U	**180**
TC5R	11/03/2016	1 U	1 U	1 U	3 U	100 U	**170**	250 U	**295**
	11/03/2016	1 U	1 U	1 U	3 U	100 U	**180**	250 U	**305**
TC6	11/03/2016	1 U	1 U	1 U	3 U	100 U	**72**	250 U	**197**
TC7	11/03/2016	1 U	1 U	1 U	3 U	100 U	**69**	250 U	**194**

NOTES:

Detected results are indicated by bold font.

MTCA = Model Toxics Control Act.

TPH = total petroleum hydrocarbons.

U = Result is non-detect.

ug/L = micrograms per liter.

[a]MTCA Method A cleanup level for gasoline with presence of benzene. Note: benzene was previously detected in groundwater at the Site.

[b]Sum of Diesel TPH and Motor Oil TPH. Non-detect values used at 1/2 the reporting limit value.

Table 4
Groundwater Geochemical Parameters
Former Truck City Truck Stop Site
Skagit County
Mount Vernon, Washington

Location:	TC-1R	TC-2	TC-3R	TC-4R	TC-5R	TC-6	TC-7
Sample Name:	TC1R-GW-110316	TC2-GW-110316	TC3R-GW-110316	TC4R-GW-110316	TC5R-GW-110316	TC6-GW-110316	TC7-GW-110316
Collection Date:	11/03/2016	11/03/2016	11/03/2016	11/03/2016	11/03/2016	11/03/2016	11/03/2016
Geochemical Parameters							
Dissolved oxygen[a] (mg/L)	1.22	1.05	0.92	1.41	0.57	0.97	1.58
Oxidation reduction potential[a] (mV)	-182	20.8	-106.1	-13.8	-186.2	30.4	-95.1
Ferrous Iron[a] (mg/L)	2.75	--	--	--	0.25	--	--
Manganese (mg/L)	1.680	--	--	--	0.434	--	--
Methane (mg/L)	0.11	--	--	--	0.016	--	--
Nitrate(as Nitrogen) (mg/L)	0.025 R	--	--	--	0.07 R	--	--
Sulfate (mg/L)	235	--	--	--	220	--	--

NOTES:

-- = not analyzed.

mg/L = milligrams per liter.

mV = millivolts.

R = Result is rejected due to analysis performed outside of holding time.

[a]Measured in the field using a Hach test kit, Model IR-18C.

ATTACHMENT A

MONITORING WELL INSTALLATION AND BORING LOGS

Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.03.01	**TC-1R**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**10/31/2016 to 10/31/2016**	Northing	
Driller/Equipment	**Holt Services, Inc./ Michael and Kyle/Geoprobe 7800**	Easting	
Geologist/Engineer	**Carolyn Wise**	Hole Depth	**15.0-feet**
Sample Method	**Direct-Push**	Outer Hole Diam	**2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
1			50	GP					0.0 to 2.5 feet: SANDY GRAVEL (GW); brown; 20% sand, fine to medium grained, angular to subangular; 80% gravel, medium to coarse grained, angular to subangular; stiff; well graded; dry. (FILL)
2									
3									2.5 to 5.0 feet: no recovery.
4									
5			48	GP					5.0 to 5.8 feet: SANDY GRAVEL (GW); brown; 20% sand, fine to medium grained, angular to subangular; 80% gravel, medium to coarse grained, angular to subangular; stiff; well graded; dry. (FILL)
6									5.8 to 6.4 feet: SILT (ML); gray; 100% fines; stiff; dry to moist.
7									6.4 to 7.4 feet: POORLY GRADED SAND (SP); light brown, 5% fines; 95% sand, well sorted, very fine to fine grained; loose to medium dense; dry to moist.
8									7.4 to 10.0 feet: no recovery.
9									
10	▽		80	GP					10.0 to 11.8 feet: SANDY SILT (ML); gray; 90% fines; 10% sand, very fine to fine grained; stiff; moist.
11	▼								
12									11.8 to 14.0 feet: POORLY GRADED SAND (SP); gray; 100% sand, medium grained; wet.
13									
14									14.0 to 15.0 feet: no recovery.
15									

Total Depth = 15.0 feet bgs.

Borehole Completion Details:

0.0 to 15.0 feet: 3.75-inch borehole.
0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Bentonite chips hydrated with potable water.
2.5 to 15.0 feet: 10x20 silica sand filter pack.

Monitoring Well Completion Details:

Washington State Department of Ecology Well Tag Number: BKY-357
Traffic-grade, flush-mounted, monitoring well vault.
0.0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, riser pipe.
5.0 to 14.5 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked, well screen.
14.5 to 14.7 feet: 2-inch, schedule 40, polyvinyl chloride pipe end cap.

NOTES: *1. bgs = below ground surface. 2. GP = Geoprobe macro-core sampler. 3. Depths are relative to feet bgs.*

▽ ***Water level observed at time of drilling.*** ▼ ***Water level observed during sampling.***

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Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.02.02	TC-2	1 of 1

Project Name	Truck City Site	TOC Elevation (feet)	
Project Location	Mount Vernon, WA	Surface Elevation (feet)	
Start/End Date	7/17/2014 to 7/17/2014	Northing	
Driller/Equipment	Holt Services, Inc./Geoprobe 7822DT	Easting	
Geologist/Engineer	Yen-Vy Van	Hole Depth	15.0-feet
Sample Method	Geoprobe	Outer Hole Diam	3.5-inch

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
									0.0 to 0.4 feet: ASPHALT.
1–5			20	GP					0.4 to 5.0 feet: SANDY GRAVEL (GW); tan brown; 5% fines; 35% sand, fine to coarse; 60% gravel, fine to medium, subangular; medium dense; dry. (FILL)
5–6			100	GP					5.0 to 6.5 feet: SILTY SAND (SM); grayish brown; 35% fines; 65% sand; medium dense; moist to wet @ 6.5 feet.
7						TC2-S-6.5 PID = 2.0 ppm			6.5 to 10.0 feet: SILT (ML); medium to dark gray; 100% fines; soft; intermittent pockets of silty clay; saturated from 7.0 to 8.0 feet, moist to wet @ 9.0 feet.
9						TC2-S-9.0			
10–11			100	GP					10.0 to 14.5 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, medium, well sorted; medium dense; saturated @ 11.0-14.5 feet.
12						TC2-S-12.0			
15						TC2-S-15.0 PID = 0.0 ppm			14.5 to 15.0 feet: CLAY (CL); gray; 100% fines, high plasticity; soft; local wood chips; moist to wet.

NOTES: Ecology Well ID #BIP 879. Boring completed as pre-packed 2" well.
PID = photoionization detector.
ppm = parts per million.

▽ **Water level observed at time of drilling.**

▼ **Water level observed after well development.**

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Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.03.01	**TC-3R**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**10/31/2016 to 10/31/2016**	Northing	
Driller/Equipment	**Holt Services, Inc./ Michael and Kyle/Geoprobe 7800**	Easting	
Geologist/Engineer	**Carolyn Wise**	Hole Depth	**15.0-feet**
Sample Method	**Direct-Push**	Outer Hole Diam	**2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
1–5			**62**	**GP**					*0.0 to 3.1 feet: SANDY GRAVEL WITH SILT (GW-GM); brown; 10% fines; 30% sand, fine to medium grained; 60% gravel, fine to coarse, subrounded to subangular; medium dense; well graded; dry. (FILL)* *3.1 to 5.0 feet: no recovery.*
5–10			**48**	**GP**					*5.0 to 7.4 feet: SANDY GRAVEL WITH SILT (GW-GM); brown; 10% fines; 30% sand, fine to medium grained; 60% gravel, fine to coarse, subrounded to subangular; medium dense; well graded; moist to wet. (FILL)* *@ 7.3 feet: wet.* *7.4 to 10.0 feet: no recovery.*
10–15			**68**	**GP**					*10.0 to 12.0 feet: SANDY GRAVEL WITH SILT (GW-GM); brown; 10% fines; 30% sand, fine to medium grained; 60% gravel, fine to coarse, subrounded to subangular; medium dense; well graded; wet. (FILL)* *12.0 to 13.4 feet: SANDY SILT (ML); gray; 90% fines, stiff; 10% sand, very fine; wet.* *13.4 to 15.0 feet: no recovery.*

Total Depth = 15.0 feet bgs.

Borehole Completion Details:

0.0 to 15.0 feet: 3.75-inch borehole.
0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Bentonite chips hydrated with potable water.
2.5 to 15.0 feet: 10x20 silica sand filter pack.

Monitoring Well Completion Details:

Washington State Department of Ecology Well Tag Number: BKY-355
Traffic-grade, flush-mounted, monitoring well vault.
0.0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, riser pipe.
5.0 to 14.5 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked, well screen.
14.5 to 14.7 feet: 2-inch, schedule 40, polyvinyl chloride pipe end cap.

NOTES: *1. bgs = below ground surface. 2. GP = Geoprobe macro-core sampler. 3. Depths are relative to feet bgs.*

▽ ***Water level observed at time of drilling.*** ▼ ***Water level observed during sampling.***

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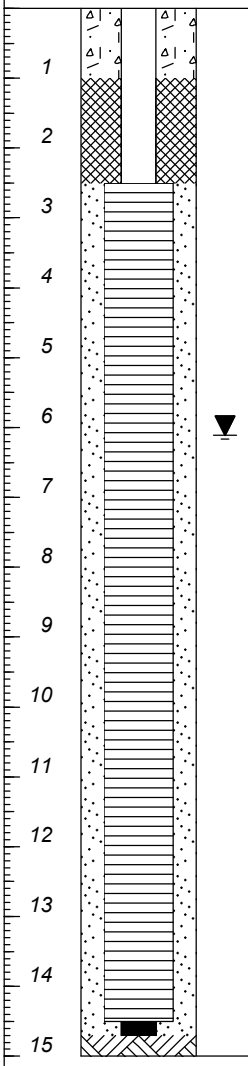
Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.03.01	**TC-4R**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**11/01/2016 to 11/01/2016**	Northing	
Driller/Equipment	**Holt Services, Inc./ Michael and Kyle/Geoprobe 7800**	Easting	
Geologist/Engineer	**Carolyn Wise**	Hole Depth	**15.0-feet**
Sample Method	**Direct-Push**	Outer Hole Diam	**2.25-inch**



Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
1			100	GP					0.0 to 2.5 feet: SANDY GRAVEL WITH SILT (GW-GM); dark brown and gray; 10% fines; 30% sand; 60% gravel; medium dense to dense; well graded; dry. (FILL)
2									
3									2.5 to 7.0 feet: SILTY SAND (SM); light to medium brown; 35% fines; 65% sand; local fine subangular gravel; local iron oxidation staining; dry.
4									
5			100	GP					
6	▼								
7									7.0 to 9.0 feet: SILT (ML); gray; 100% fines; medium stiff; layered silt; moist to wet @ 7.0 feet, saturated @ 7.5 to 9.0 feet.
8									
9									9.0 to 15.0 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, well sorted, medium grained; moist to wet.
10			100	GP					
11									
12									
13									
14									
15									

Total Depth = 15.0 feet bgs.

Borehole Completion Details:
0.0 to 15.0 feet: 3.75-inch borehole.
0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Bentonite chips hydrated with potable water.
2.5 to 15.0 feet: 10x20 silica sand filter pack.

Monitoring Well Completion Details:
Washington State Department of Ecology Well Tag Number: BKY-358
Traffic-grade, flush-mounted, monitoring well vault.
0.0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, riser pipe.
5.0 to 14.5 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked, well screen.
14.5 to 14.7 feet: 2-inch, schedule 40, polyvinyl chloride pipe end cap.

NOTES: 1. bgs = below ground surface. 2. GP = Geoprobe macro-core sampler. 3. Depths are relative to feet bgs. 4. Soil descriptions from adjacent decommissioned well, TC-4. New soil cores were not observed during the installation of TC-4R.

▼ **Water level observed during sampling.**

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Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.03.01	**TC-5R**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**10/31/2016 to 10/31/2016**	Northing	
Driller/Equipment	**Holt Services, Inc./ Michael and Kyle/Geoprobe 7800**	Easting	
Geologist/Engineer	**Carolyn Wise**	Hole Depth	**15.0-feet**
Sample Method	**Direct-Push**	Outer Hole Diam	**2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
1			**60**	**GP**					*0.0 to 3.0 feet: SANDY GRAVEL (GW); gray to brown; 20% sand, fine to medium grained, angular to subangular; 80% gravel, medium to coarse, angular; stiff; well graded; moist. (FILL)*
2									
3									
4									*3.0 to 5.0 feet: no recovery.*
5			**64**	**GP**					*5.0 to 6.2 feet: SANDY GRAVEL (GW); brown; 20% sand, fine to medium grained, angular to subangular; 80% gravel, medium to coarse, angular; stiff; well graded; moist. (FILL)*
6									*6.2 to 8.2 feet: GRAVEL WITH SAND (GP); gray; 10% sand, medium to coarse grained; 90% gravel, medium to coarse grained, angular to subangular; stiff; poorly graded; dry to moist. (FILL)*
7									
8									*8.2 to 10.0 feet: no recovery.*
9									
10	▽		**56**	**GP**					*10.0 to 12.5 feet: GRAVEL WITH SAND (GP); brown; 10% sand, medium to coarse grained; 90% gravel, medium to coarse grained, angular to subangular; stiff; poorly graded; moist to wet. (FILL)*
11	▼								
12									
13									*12.5 to 12.8 feet: POORLY GRADED SAND (SP); gray; 100% sand, medium grained; soft; wet.*
14									*12.8 to 15.0 feet: no recovery.*
15									

Total Depth = 15.0 feet bgs.

Borehole Completion Details:

0.0 to 15.0 feet: 3.75-inch borehole.
0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Bentonite chips hydrated with potable water.
2.5 to 15.0 feet: 10x20 silica sand filter pack.

Monitoring Well Completion Details:

Washington State Department of Ecology Well Tag Number: BKY-356
Traffic-grade, flush-mounted, monitoring well vault.
0.0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, riser pipe.
5.0 to 14.5 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked, well screen.
14.5 to 14.7 feet: 2-inch, schedule 40, polyvinyl chloride pipe end cap.

NOTES: *1. bgs = below ground surface. 2. GP = Geoprobe macro-core sampler. 3. Depths are relative to feet bgs.*

▽ ***Water level observed at time of drilling.*** ▼ ***Water level observed during sampling.***

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Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.02.02	**TC-6**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**7/17/2014 to 7/17/2014**	Northing	
Driller/Equipment	**Holt Services, Inc./Geoprobe 7822DT**	Easting	
Geologist/Engineer	**Yen-Vy Van**	Hole Depth	**15.0-feet**
Sample Method	**Geoprobe**	Outer Hole Diam	**3.5-inch**

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
0			**100**	**GP**					*0.0 to 0.4 feet: ASPHALT.*
1									*0.4 to 3.0 feet: SAND with GRAVEL (SW); black brown; 10% fines; 75% sand; 15% gravel; loose; moist.*
2									
3						**TC6-S-3.0 PID = 0.0 ppm**			*3.0 to 7.0 feet: SILTY SANDY CLAY (CL); light brown; 75% fines, moderate plasticity; 25% sand; medium stiff; abundant iron oxidation staining; moist to wet @ 7.0 feet.*
4									
5			**100**	**GP**					
6	▼								
7	▽					**TC6-S-7.0 PID = 1.3 ppm**			*7.0 to 9.0 feet: SILTY CLAY (CL); gray; 100% fines, low plasticity; soft; saturated.*
8									
9									*9.0 to 12.5 feet: SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; saturated.*
10			**100**	**GP**					
11									
12									
13						**TC6-S-12.5**			*12.5 to 13.5 feet: POORLY GRADED SAND (SP); 10% fines; 90% sand, well sorted, medium; medium dense; saturated.*
14						**TC6-S-13.5**			*13.5 to 15.0 feet: SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; moist to wet.*
15						**TC6-S-15.0 PID = 28.5 ppm**			

NOTES: *Ecology Well ID #BIP 880. Boring completed as pre-packed 2" well.*
PID = photoionization detector.
ppm = parts per million.

▽ ***Water level observed at time of drilling.***

▼ ***Water level observed after well development.***

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Maul Foster & Alongi, Inc.

Geologic Borehole Log/Well Construction

Project Number	Well Number	Sheet
0714.03.01	**TC-7**	**1 of 1**

Project Name	**Truck City Site**	TOC Elevation (feet)	
Project Location	**Mount Vernon, WA**	Surface Elevation (feet)	
Start/End Date	**11/01/2016 to 11/01/2016**	Northing	
Driller/Equipment	**Holt Services, Inc./ Michael and Kyle/Geoprobe 7800**	Easting	
Geologist/Engineer	**Carolyn Wise**	Hole Depth	**15.0-feet**
Sample Method	**Direct-Push**	Outer Hole Diam	**2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data: Interval	Percent Recovery	Collection Method	Number	Name (Type)	Blows/6"	Lithologic Column	Soil Description
1			**50**	**GP**					0.0 to 2.25 feet: WELL GRADED GRAVEL (GW); brown to gray; 20% fines; 20% sand, fine to medium; 60% gravel, coarse, angular; medium dense; dry. (FILL)
2									
3									2.25 to 5.0 feet: no recovery.
4									
5			**54**	**GP**					5.0 to 5.5 feet: GRAVEL WITH SILT (GP); brown; 10% fines; 90% gravel, coarse, angular; medium dense; poorly graded; moist. (FILL)
6									5.5 to 7.7 feet: POORLY GRADED SAND (SP); brown to gray; 100% sand, fine, medium grained; moist.
7									
8									7.7 to 10.0 feet: no recovery.
9									
10			**100**	**GP**					10.0 to 11.0 feet: POORLY GRADED GRAVEL (GP); gray to white; 100% gravel, coarse, subangular to subrounded; loose; moist.
11									11.0 to 12.3 feet: SANDY SILT (ML); gray; 90% fines, stiff; 10% sand, very fine; wet.
12									
13									12.3 to 15.0 feet: POORLY GRADED SAND (SP); gray; 100% sand, medium, angular to subangular; loose; wet.
14									
15									

Total Depth = 15.0 feet bgs.

Borehole Completion Details:

0.0 to 15.0 feet: 3.75-inch borehole.
0.0 to 1.0 feet: Concrete.
1.0 to 2.5 feet: Bentonite chips hydrated with potable water.
2.5 to 15.0 feet: 10x20 silica sand filter pack.

Monitoring Well Completion Details:

Washington State Department of Ecology Well Tag Number: BKY-356
Traffic-grade, flush-mounted, monitoring well vault.
0.0 to 5.0 feet: 2-inch diameter, schedule 40, polyvinyl chloride, riser pipe.
5.0 to 14.5 feet: 2-inch diameter, schedule 40, polyvinyl chloride, 0.010 machine slot, prepacked, well screen.
14.5 to 14.7 feet: 2-inch, schedule 40, polyvinyl chloride pipe end cap.

NOTES: *1. bgs = below ground surface. 2. GP = Geoprobe macro-core sampler. 3. Depths are relative to feet bgs.*

▽ ***Water level observed at time of drilling.*** ▼ ***Water level observed during sampling.***

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ATTACHMENT B

WATER FIELD SAMPLING DATA SHEETS

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-1R
Project #	0714.03.01	**Sampler**	C. Wise
Project Name	Former Truck City	**Sampling Date**	11/3/2016
Sampling Event	November 2016	**Sample Name**	TC1R-GW-110316
Sub Area		**Sample Depth**	12
FSDS QA:	RD 12/2/2016	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	15:25	14.54		10.88		3.66	0.59

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	3:50:00 PM	1	0.2	6.79	16.72	1161	1.91	-157.5	24.3
	3:54:00 PM	1.2	0.2	6.77	16.59	1158	1.57	-165.4	15.4
	3:58:00 PM	1.4	0.2	6.77	16.52	1159	1.37	-174.1	12.1
	4:02:00 PM	1.6	0.2	6.77	16.5	1160	1.34	-177.7	11.8
	4:08:00 PM	1.8	0.2	6.77	16.51	1161	1.25	-181.1	10.6
Final Field Parameters	4:12:00 PM	2	0.2	6.76	16.48	1161	1.22	-182	9.74

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear. Slight odor. Sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	4:15:00 PM	VOA-Glass	7	No
			Amber Glass	1	No
			White Poly	2	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	11	

General Sampling Comments

Began purge at 15:27.
Field test of ferrous iron = 2.75 mg/L.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-2				
Project #	0714.03.01	**Sampler**	C. Wise				
Project Name	Former Truck City	**Sampling Date**	11/3/2016				
Sampling Event	November 2016	**Sample Name**	TC2-GW-110316				
Sub Area		**Sample Depth**	9				
FSDS QA:	RD 12/2/2016	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	11:40	14.35		6.16		8.19	1.33

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	11:58:00 AM	1.2	0.2	6.53	16.92	763	1.41	17.2	27.5
	12:02:00 PM	1.46	0.2	6.52	16.91	753	1.32	16.5	25.6
	12:06:00 PM	1.72	0.2	6.53	17	719	1.25	17	19.6
	12:10:00 PM	1.98	0.2	6.55	17	695	1.2	17.5	17.4
	12:14:00 PM	2.24	0.2	6.55	17.01	670	1.16	18.4	10.7
	12:18:00 PM	2.5	0.2	6.56	17.06	650	1.11	19.6	11.3
Final Field Parameters	12:22:00 PM	2.76	0.2	6.56	17.14	656	1.05	20.8	11.1

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear. No odor or sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	12:30:00 PM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments

Began purge at 11:45.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-3R				
Project #	0714.03.01	**Sampler**	C. Wise				
Project Name	Former Truck City	**Sampling Date**	11/3/2016				
Sampling Event	November 2016	**Sample Name**	TC3R-GW-110316				
Sub Area		**Sample Depth**	10				
FSDS QA:	RD 12/2/2016	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	9:35	14.56		7.36		7.2	1.17

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	9:55:00 AM	1	0.2	7.06	15	1023	1.43	-95.8	21.7
	10:00:00 AM	1.26	0.2	7.08	15.04	1056	1.11	-102.3	19
	10:04:00 AM	1.52	0.2	7.1	15.09	1082	1.03	-104	20
	10:08:00 AM	1.78	0.2	7.11	15.1	1102	0.97	-105.1	20.8
	10:12:00 AM	2.04	0.2	7.13	15.13	1120	0.93	-105.9	19.6
Final Field Parameters	10:15:00 AM	2.2	0.2	7.12	15.18	1129	0.92	-106.1	19.9

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear. No sheen. Slight odor.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	10:15:00 AM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments Began purge at 9:40.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-4R
Project #	0714.03.01	**Sampler**	C. Wise
Project Name	Former Truck City	**Sampling Date**	11/3/2016
Sampling Event	November 2016	**Sample Name**	TC4R-GW-110316
Sub Area		**Sample Depth**	9
FSDS QA:	RD 12/2/2016	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	10:40	14.81		6.11		8.7	1.41

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	10:58:00 AM	1.5	0.2	6.76	16.11	543	2.23	4.2	10.2
	11:02:00 AM	1.7	0.2	6.68	16.15	542	1.76	-0.8	7.83
	11:06:00 AM	1.9	0.2	6.66	16.17	543	1.6	-3.7	6.21
	11:10:00 AM	2.1	0.2	6.64	16.17	542	1.46	-9.5	6.56
Final Field Parameters	11:14:00 AM	2.3	0.2	6.63	16	542	1.41	-13.8	6.17

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear. No sheen. Slight odor.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	11:15:00 AM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments Began purge at 10:46.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-5R
Project #	0714.03.01	**Sampler**	C. Wise
Project Name	Former Truck City	**Sampling Date**	11/3/2016
Sampling Event	November 2016	**Sample Name**	TC5R-GW-110316
Sub Area		**Sample Depth**	12
FSDS QA:	RD 12/2/2016	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	13:45	14.43		10.96		3.47	0.56

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	2:12:00 PM	1	0.2	7.51	16.3	901	1.36	-149.2	89.6
	2:18:00 PM	1.2	0.2	7.5	16.11	872	0.92	-168.8	71.2
	2:22:00 PM	1.4	0.2	7.5	16.12	864	0.87	-171.8	49.8
	2:26:00 PM	1.6	0.2	7.5	16.16	849	0.74	-176.7	38.1
	2:30:00 PM	1.8	0.2	7.5	16.09	842	0.65	-182.2	39.1
	2:34:00 PM	2	0.2	7.49	16.15	841	0.6	-185.6	38.4
Final Field Parameters	2:38:00 PM	2.2	0.2	7.49	16.09	842	0.57	-186.2	18.6

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear. Slight odor. No sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	2:45:00 PM	VOA-Glass	11	No
			Amber Glass	2	No
			White Poly	2	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purge at 13:20.
Field test of ferrous iron = 0.25 mg/L.
Collected TCDUP-GW-110316 at 14:45.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-6
Project #	0714.03.01	**Sampler**	C. Wise
Project Name	Former Truck City	**Sampling Date**	11/3/2016
Sampling Event	November 2016	**Sample Name**	TC6-GW-110316
Sub Area		**Sample Depth**	8
FSDS QA:	RD 12/2/2016	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	12:30	14.84		5.68		9.16	1.5

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	12:55:00 PM	1.5	0.2	6.55	16.24	353	1.72	44.4	32.5
	12:59:00 PM	1.7	0.2	6.53	16.14	353	1.45	42.2	25.2
	1:03:00 PM	1.9	0.2	6.54	16.15	354	1.26	37.9	24.2
	1:07:00 PM	2.1	0.2	6.55	16.12	354	1.15	35.6	21.7
	1:11:00 PM	2.3	0.2	6.55	16.13	355	1.05	33.1	19.1
	1:15:00 PM	2.5	0.2	6.55	16.11	355	1.01	32.1	16.7
Final Field Parameters	1:19:00 PM	2.7	0.2	6.55	16.14	356	0.97	30.4	9.71

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear. No odor or sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	1:20:00 PM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments Began purge at 12:37.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	Skagit County	**Sample Location**	TC-7		
Project #	0714.03.01	**Sampler**	C. Wise		
Project Name	Former Truck City	**Sampling Date**	11/3/2016		
Sampling Event	November 2016	**Sample Name**	TC7-GW-110316		
Sub Area		**Sample Depth**	11		
FSDS QA:	RD 12/2/2016	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
11/3/2016	7:45	14.55		8.42		6.13	1

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	8:40:00 AM	2	0.2	6.58	13.41	400	1.81	-55.5	22.2
	8:45:00 AM	2.26	0.2	6.61	13.38	400	1.77	-67	15.5
	8:50:00 AM	2.52	0.2	6.63	13.43	401	1.77	-76.2	12.4
	8:55:00 AM	2.78	0.2	6.65	13.48	401	1.6	-88.2	10.4
	9:00:00 AM	3.04	0.2	6.66	13.46	402	1.59	-91.7	9.37
Final Field Parameters	9:05:00 AM	3.3	0.2	6.66	13.39	401	1.58	-95.1	9.22

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear. No sheen. Slight odor.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	9:00:00 AM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments Began purge at 7:56.

Signature _____

ATTACHMENT C

ANALYTICAL LABORATORY REPORT

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

November 22, 2016

Yen-Vy Van, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Van:

Included are the results from the testing of material submitted on November 4, 2016 from the Truck City 0714.03.01-04, F&BI 611092 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
MFA1122R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 4, 2016 by Friedman & Bruya, Inc. from the Maul Foster Alongi Truck City 0714.03.01-04, F&BI 611092 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
611092 -01	TC7-GW-110316
611092 -02	TC3R-GW-110316
611092 -03	TC4R-GW-110316
611092 -04	TC2-GW-110316
611092 -05	TC6-GW-110316
611092 -06	TC5R-GW-110316
611092 -07	TC1R-GW-110316
611092 -08	TCDUP-GW-110316

Samples TC5R-GW-110316 and TC1R-GW-110316 were sent to Amtest for nitrate and sulfate analyses. Review of the enclosed report indicates that all quality assurance were acceptable.

A 200.8 internal standard failed the acceptance criteria for sample TC1R-GW-110316 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

All other quality control requirements were acceptable.

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092
Date Extracted: 11/07/16
Date Analyzed: 11/07/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
TC7-GW-110316 611092-01	<1	<1	<1	<3	<100	89
TC3R-GW-110316 611092-02	<1	<1	<1	<3	<100	92
TC4R-GW-110316 611092-03	<1	<1	<1	<3	<100	90
TC2-GW-110316 611092-04	<1	<1	<1	<3	<100	89
TC6-GW-110316 611092-05	<1	<1	<1	<3	<100	94
TC5R-GW-110316 611092-06	<1	<1	<1	<3	<100	91
TC1R-GW-110316 611092-07	<1	<1	<1	<3	<100	88
TCDUP-GW-110316 611092-08	<1	<1	<1	<3	<100	87
Method Blank 06-2202 MB	<1	<1	<1	<3	<100	98

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092
Date Extracted: 11/07/16
Date Analyzed: 11/07/16

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
TC7-GW-110316 611092-01	69 x	<250	101
TC3R-GW-110316 611092-02	100 x	<250	105
TC4R-GW-110316 611092-03	55 x	<250	100
TC2-GW-110316 611092-04	54 x	<250	108
TC6-GW-110316 611092-05	72 x	<250	111
TC5R-GW-110316 611092-06	170 x	<250	103
TC1R-GW-110316 611092-07	270 x	<250	107
TCDUP-GW-110316 611092-08	180 x	<250	109
Method Blank 06-2301 MB	<50	<250	98

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC5R-GW-110316	Client:	Maul Foster Alongi
Date Received:	11/04/16	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/15/16	Lab ID:	611092-06
Date Analyzed:	11/16/16	Data File:	611092-06.046
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	434

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC1R-GW-110316	Client:	Maul Foster Alongi
Date Received:	11/04/16	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/15/16	Lab ID:	611092-07
Date Analyzed:	11/16/16	Data File:	611092-07.053
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,680 J

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC1R-GW-110316	Client:	Maul Foster Alongi
Date Received:	11/04/16	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/15/16	Lab ID:	611092-07 x10
Date Analyzed:	11/16/16	Data File:	611092-07 x10.055
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	2,340

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/15/16	Lab ID:	I6-753 mb
Date Analyzed:	11/16/16	Data File:	I6-753 mb.030
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	<1

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	TC5R-GW-110316	Client:	Maul Foster Alongi
Date Received:	11/04/16	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/07/16	Lab ID:	611092-06
Date Analyzed:	11/07/16	Data File:	006F0601.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	16

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	TC1R-GW-110316	Client:	Maul Foster Alongi
Date Received:	11/04/16	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/07/16	Lab ID:	611092-07
Date Analyzed:	11/07/16	Data File:	007F0701.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	110

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Truck City 0714.03.01-04, F&BI 611092
Date Extracted:	11/07/16	Lab ID:	06-2278 mb
Date Analyzed:	11/07/16	Data File:	005F0501.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	<5

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 611092-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	92	65-118
Toluene	ug/L (ppb)	50	92	72-122
Ethylbenzene	ug/L (ppb)	50	86	73-126
Xylenes	ug/L (ppb)	150	87	74-118
Gasoline	ug/L (ppb)	1,000	95	69-134

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	104	90	61-133	14

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 611183-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	284	53 b	72 b	70-130	30 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	102	85-115

Date of Report: 11/22/16
Date Received: 11/04/16
Project: Truck City 0714.03.01-04, F&BI 611092

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED GASSES USING METHOD RSK 175

Laboratory Code: 611092-07 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Methane	ug/L (ppb)	110	110	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methane	ug/L (ppb)	59	59	59	50-150	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

611092

SAMPLE CHAIN OF CUSTODY ME 11-04-16 AIS / AU3 / UW3

Page # 1 of 1

Report To Yen-Vy Van
Company Maul Foster Alongi
Address 2815 2nd Ave Ste. 540
City, State, ZIP Seattle, WA 98121
Phone 2533205378 Email yvan@maulfoster.com

SAMPLERS (*signature*) Carolyn Wise
PROJECT NAME Truck City
PO # 0714.03.01-04
REMARKS
INVOICE TO Y. Van

TURNAROUND TIME
☒ Standard Turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Archive Samples
☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Nitrate 353.2	Manganese 6020A	Sulfate D516-02	Methane RSK 175	Notes
TC7-GW-110316	01 A-E	11/3/16	900	W	5		X	X	X								
TC3R-GW-110316	02		1015	W	5		X	X	X								
TC4R-GW-110316	03		1115	W	5		X	X	X								
TC2-GW-110316	04		1230	W	5		X	X	X								
TC6-GW-110316	05		1320	W	5		X	X	X								
TC5R-GW-110316	06 A-J		1445	W	10		X	X	X				X	X	X	X	
TC1R-GW-110316	07 A-J			W	10		X	X	X				X	X	X	X	
TCDUP-GW-110316	08 A-E		1445	W	5		X	X	X								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Carolyn Wise	Carolyn Wise	MFA	11/3/16	1730
Received by: Nhan Pham	Nhan Pham	FEBI	11/4/16	1500
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664

Professional Analytical Services

Dec 12 2016
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL

Dear MICHAEL ERDAHL:

Enclosed please find the analytical data for your 611092 project.

The following is a cross correlation of client and laboratory identifications for your convenience.

CLIENT ID	MATRIX	AMTEST ID	TEST
TC5R-GW-110316	Water	16-A028305	NUT, MIN
TC1R-GW-110316	Water	16-A028306	NUT, MIN

Your samples were received on Monday, November 7, 2016. At the time of receipt, the samples were logged in and properly maintained prior to the subsequent analysis.

The analytical procedures used at AmTest are well documented and are typically derived from the protocols of the EPA, USDA, FDA or the Army Corps of Engineers.

Following the analytical data you will find the Quality Control (QC) results.

Please note that the detection limits that are listed in the body of the report refer to the Practical Quantitation Limits (PQL's), as opposed to the Method Detection Limits (MDL's).

If you should have any questions pertaining to the data package, please feel free to conact me.

Sincerely,

Aaron W. Young
Laboratory Manager

Project #: 611092
PO Number: E-340

BACT = Bacteriological
CONV = Conventionals
MET = Metals
ORG = Organics
NUT=Nutrients
DEM=Demand
MIN=Minerals

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Attention: MICHAEL ERDAHL
Project Name: 611092
Project #: 611092
PO Number: E-340
All results reported on an as received basis.

Date Received: 11/07/16
Date Reported: 12/12/16

AMTEST Identification Number **16-A028305**
Client Identification **TC5R-GW-110316**
Sampling Date **11/03/16, 14:45**

Minerals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfate	220.	mg/l		0.1	EPA 300.0	MJ	11/09/16

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrite	< 0.005	mg/l	R	0.005	EPA 300.0	MJ	11/09/16
Nitrate	0.070	mg/l	R	0.025	EPA 300.0	MJ	11/09/16
Nitrate+Nitrite	0.070	mg/l	R	0.025	EPA 300.0	Calculated	

AMTEST Identification Number **16-A028306**
Client Identification **TC1R-GW-110316**
Sampling Date **11/03/16, 14:45**

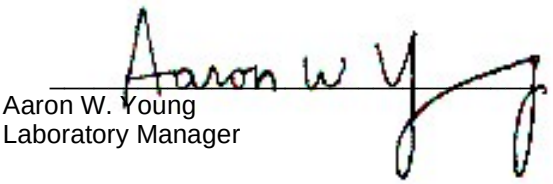
Minerals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfate	235.	mg/l		0.1	EPA 300.0	MJ	11/09/16

Nutrients

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Nitrite	< 0.005	mg/l	R	0.005	EPA 300.0	MJ	11/09/16
Nitrate	< 0.025	mg/l	R	0.025	EPA 300.0	MJ	11/09/16
Nitrate+Nitrite	< 0.025	mg/l	R	0.025	EPA 300.0	Calculated	

R = The sample was analyzed outside of the method specified holding time.



Aaron W. Young
Laboratory Manager

Am Test Inc.
13600 NE 126th PL
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Kirkland, WA, 98034
(425) 885-1664
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Professional Analytical Services

QC Summary for sample numbers: 16-A028305 to 16-A028306

DUPLICATES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	DUP VALUE	RPD
16-A028367	Nitrate	mg/l	0.255	0.243	4.8
16-A028476	Nitrate	mg/l	0.041	< 0.025	
16-A028367	Nitrite	mg/l	< 0.005	< 0.005	
16-A028436	Sulfate	mg/l	51.7	52.4	1.3

MATRIX SPIKES

SAMPLE #	ANALYTE	UNITS	SAMPLE VALUE	SMPL+ SPK	SPK AMT	RECOVERY
16-A028367	Nitrate	mg/l	0.255	2.30	2.00	102.25 %
16-A028476	Nitrate	mg/l	0.041	2.16	2.00	105.95 %
16-A028367	Nitrite	mg/l	< 0.005	2.03	2.00	101.50 %
16-A028436	Sulfate	mg/l	51.7	74.5	20.0	114.00 %

STANDARD REFERENCE MATERIALS

ANALYTE	UNITS	TRUE VALUE	MEASURED VALUE	RECOVERY
Nitrate	mg/l	2.00	2.08	104. %
Nitrate	mg/l	2.00	2.14	107. %
Nitrate	mg/l	2.00	2.17	108. %
Nitrite	mg/l	2.00	2.12	106. %
Sulfate	mg/l	2.00	2.15	108. %
Sulfate	mg/l	2.00	2.04	102. %

BLANKS

ANALYTE	UNITS	RESULT
Nitrate	mg/l	< 0.025
Nitrate	mg/l	< 0.025
Nitrite	mg/l	< 0.005
Nitrite	mg/l	< 0.005
Sulfate	mg/l	< 0.1
Sulfate	mg/l	< 0.1

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER Amtest

PROJECT NAME/NO. 611092

PO # E-340

REMARKS

Please Email Results EQUIS EDD

Page # 1 of 1

TURNAROUND TIME

☒ Standard (2 Weeks)

☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Dispose after 30 days

☐ Return samples

☐ Will call with instructions

P.5

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled 11/3/16 MK 12/13/16	Time Sampled	Matrix	# of jars	Dioxins/Furans	EPH	VPH	Nitrate	Sulfate	Alkalinity	TOC-9060M				Notes
TCSR-GW-110316	285305	11/4/16	1445	water					X	X						
TCIR-GW-110316	↓	↓	↓	↓					X	X						

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman and Bruya	11/7/16	1045
Received by:	AS	Amtest FedEx Tech		11/7/16	1200
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

ATTACHMENT D

DATA VALIDATION MEMORANDUM

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 0714.03.01 | DECEMBER 29, 2016 | SKAGIT COUNTY

Maul Foster & Alongi, Inc. (MFA) conducted an independent review of the quality of analytical results for groundwater samples collected at the former Truck City Truck Stop site in Mount Vernon, Washington. The samples were collected on November 3, 2016.

Friedman & Bruya, Inc. (FB) and Am Test, Inc. (AM) performed the analyses. FB report number 611092 was reviewed. Anions analysis was subcontracted to AM and AM report E-340 is appended to FB report 611092. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Anions	USEPA 300.0
BTEX	USEPA 8021B
Diesel and Motor Oil Range Hydrocarbons	NWTPH-Dx
Dissolved Gases	RSK-175
Gasoline Range Hydrocarbons	NWTPH-Gx
Total Metals	USEPA 200.8

NWTPH = Northwest Total Petroleum Hydrocarbons.
RSK = USEPA National Risk Management Research Laboratory.
USEPA = U.S. Environmental Protection Agency.

Samples Analyzed	
Report 611092	
TC7-GW-110316	TC6-GW-110316
TC3R-GW-110316	TC5R-GW-110316
TC4R-GW-110316	TC1R-GW-110316
TC2-GW-110316	TCDUP-GW-110316

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2016a,b) and appropriate laboratory and method-specific guidelines (AM, 2015; FB, 2015; USEPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality-control requirements for methods not specifically addressed by the USEPA procedures (e.g., NWTPH-Dx).

In report 611092, all NWTPH-Dx diesel range hydrocarbon results were flagged by FB due to chromatographic patterns that did not match the diesel standard used for quantitation.

The results are reported as diesel range hydrocarbons within the carbon range of C_{10} to C_{25}. No qualification is required.

In report 611092, the USEPA Method 200.8 total manganese result for sample TC1R-GW-110316 was flagged by FB as estimated due to internal standard acceptance criteria exceedances. The laboratory indicated in the case narrative that the internal standard exceedances were due to matrix interference. The sample was diluted and reanalyzed with acceptable internal standard results. The undiluted sample results were reported and have been qualified by the reviewer with "R" as rejected in the following table.

Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
TC1R-GW-110316	Total Manganese	1680 J	1680 R

J = the result is an estimated value.
R = the result is rejected.
ug/L = micrograms per liter.

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

Holding Times

In report 611092, the USEPA Method 300.0 nitrate as nitrogen, nitrite as nitrogen, and nitrate+nitirite as nitrogen analyses were performed 4 days after the recommended 48 hour holding time. The reviewer confirmed that the nitrate+nitrite as nitrogen analysis was performed on unpreserved samples, which have 48 hour holding times. Due to the significant holding time exceedances, the results have been qualified by the reviewer with "R" as rejected in the following table.

Sample	Component	Original Result (mg/L)	Qualified Result (mg/L)
TC5R-GW-110316	Nitrite as Nitrogen	0.005 U	0.005 R
TC5R-GW-110316	Nitrate as Nitrogen	0.070	0.070 R
TC5R-GW-110316	Nitrate+Nitrite as Nitrogen	0.070	0.070 R
TC1R-GW-110316	Nitrite as Nitrogen	0.005 U	0.005 R
TC1R-GW-110316	Nitrate as Nitrogen	0.025 U	0.025 R
TC1R-GW-110316	Nitrate+Nitrite as Nitrogen	0.025 U	0.025 R

mg/L = milligrams per liter.
R = the result is rejected.
U = the result is non-detect.

The remaining extractions and analyses were performed within the recommended holding time criteria.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

BLANKS

Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. All laboratory method blanks were non-detect at method reporting limits.

Trip Blanks

Trip blanks were not required for this sampling event.

Equipment Rinsate Blanks

Equipment rinsate blanks were not required for this sampling event.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples. All surrogate recoveries were within acceptance limits.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency. When MS/MSD percent recoveries and RPDs were outside acceptance limits due to high concentrations of analyte in the sample, and MS/MSD exceedances were flagged by the laboratory due to high concentrations of analyte, no qualifications were made by the reviewer. All remaining MS/MSD results were within acceptance limits for percent recovery and relative percent differences (RPDs).

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. All RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency. All LCS/LCSD analytes were within acceptance limits for percent recovery and RPD.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. One field duplicate was submitted for analysis (TC5R-GW-110316/TCDUP-GW-110316). MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL, or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results. All analytes were within the acceptance criteria.

REPORTING LIMITS

FB and AM used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies.

In report 611092, the samples collection time was not provided on the chain of custody for sample TC1R-GW-110316.

In report 611092, the sample collection dates for TC5R-GW-110316 and TC1R-GW-110316 were incorrectly recorded on the subcontract chain of custody as 11/4/2016 instead of 11/3/2016. The sample collection dates were reported correctly in the subcontract laboratory report.

In report 611092, nitrate, nitrite, nitrate/nitrite, and sulfate were reported by USEPA Method 300.0; however, nitrate was requested on the chain of custody by USEPA Method 353.2 and sulfate was requested by American Society for Testing and Materials Method D516-02. No action was required by the reviewer.

No additional issues were found.

REFERENCES

FB. 2015. Quality assurance manual. Friedman & Bruya, Inc. Seattle, Washington.

AM. 2015. Quality assurance manual. Am Test, Inc. Kirkland, Washington.

USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. Update V. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 1, July 2014).

USEPA. 2016a. USEPA contract laboratory program, national functional guidelines for inorganic Superfund methods data review. EPA 540-R-2016-001. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. August.

USEPA. 2016b. USEPA contract laboratory program, national functional guidelines for Superfund organic methods data review. EPA 540-R-2016-002. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. August.