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August 31, 2018
Project 2004-004.002

Ms. Jing Song
Washington Department of Ecology -
Toxic Cleanup Program, NWRO
3190 160th Avenue Southeast
Bellevue, Washington 98008

Re: Second Quarter 2018 Groundwater Monitoring Report, Former Provisioner's Express, Inc. Facility, 2102 West Valley Highway North, Auburn, Washington, Ecology Facility ID 91612121, Cleanup Site ID 6847, VCP Project No. 3206

Dear Ms. Song:

Environmental Technologies Group, Inc. (ETG), on behalf of Commerce Road Terminals, LLC (CRT), has prepared this groundwater monitoring report to provide the results of the May 2018 groundwater monitoring completed at the former Provisioner's Express, Inc. (Provisioner's) facility (Site) located at 2102 West Valley Highway North in Auburn, Washington. This report presents the details and findings of the groundwater monitoring activities conducted at the Site on May 17, 2018, and the cleaning, development, and re-sampling of monitoring well MW-8 on June 5, 2018.

SITE DESCRIPTION

The former Provisioner's facility is located at 2102 West Valley Highway North Auburn, Washington, east of the intersection of 22nd street Northwest and West Valley Highway North (Figure 1). Northwest quarter of Section 12, Township 21 North, Range 4 East, Willamette meridian in King County, Washington. The Tax Parcel No. for the property is 1221049034, and the zoning is designated M-1, Light Industrial.

The facility is currently operated by Estes Express Lines (Estes), a motor freight transportation company. Estes uses the Site primarily for shipping/truck distribution and fleet maintenance.

The property is fully paved or covered by buildings and has a storm water conveyance system consisting of catch basins that are connected to an oil/water separator through underground piping with discharge to the municipal sewer system. Pavement is primarily asphalt with concrete pads surrounding the on-Site buildings and loading bays.

The topography of the property is relatively flat with an approximate elevation of 65 feet above mean sea level. Mill Creek and the White River Park Wetland System are the nearest surface water bodies and are located approximate 200 feet to the southeast of the Site. A drainage ditch flowing to the White River Park Wetland System is present near the south property boundary, approximately 40 feet south of the Site. The property and the Site are separated from Mill Creek and the White River Park Wetland System by an adjoining property. The nearest major surface water body, the Green River, is located approximately 1.7 miles east of the Site.

The property contains a single Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Site that is defined by the lateral and vertical extent of soil and groundwater impacted by diesel and oil range petroleum hydrocarbons (TPH-d and TPH-o) at concentrations greater than applicable MTCA Method A Cleanup Levels (CULs). The location of the Site within the property is shown on Figure 2. Under the MTCA program, the Facility Site Identification No. is 91612121, Cleanup Site Identification No. is 6847, and in July 2018 the Voluntary Cleanup Program (VCP) number was change from NW2532, to VCP No. 3206 when CRT became responsible for the Site cleanup.

BACKGROUND

Soil and groundwater at the Site were impacted by petroleum hydrocarbon releases from conveyance piping related to a 550-gallon used oil underground storage tank (UST) located near the northwest corner of the truck maintenance building (Figure 2). The UST and approximately 350 cubic yards of petroleum-contaminated soil (PCS) were removed and four monitoring wells, designated MW-1, MW-2, MW-3, and MW-4, were constructed in December 1998 (EMR, 1999).

In January 2000, Ecology issued a conditional No Further Action (NFA) determination for the Site. The NFA contained the condition that quarterly groundwater monitoring and reporting be continued until the *site demonstrates sustained, continuous compliance with Model Toxics Control Act (MTCA) Groundwater Cleanup Levels (CULs) for at least one year.* The NFA also stipulated that analytical results for groundwater compliance *shall include BTEX {benzene, toluene, ethylbenzene, and xylene), diesel, and heavy oils.*" Available records indicate that the monitoring wells were sampled approximately every quarter from December 1998 until October 2002.

In November 2002, the Site owner petitioned for a full NFA determination based on three (3) years of data demonstrating that benzene groundwater concentrations greater than MTCA Method A CULs was confined to the area on the north side of the maintenance building around MW-2. At that time, the sample collected from MW-2 had a gasoline range petroleum hydrocarbon (TPH-g) concentration of 180 micrograms per liter (µg/L) and a benzene concentration of 12.0 µg/L. The reported TPH-g concentration was less than its MTCA Method A CUL of 800 µg/L. However, the benzene concentration exceeded the MTCA Method A CUL of 5 µg/L. No other

BTEX compounds, TPH-d, or TPH-o were reported in the sample collected from MW-2. Reported contaminant concentrations for the samples collected from the remaining monitoring wells also were below MTCA Method A CULs.

Groundwater sampling was discontinued in late 2002 and the Site did not receive a full NFA determination, due to the benzene concentration exceeding MTCA Method A CUL in the samples from MW-2. Records indicate that the Site was subsequently dropped from Ecology's VCP due to inactivity.

The Site re-entered the VCP in August 2011 and was assigned VCP No. NW 2532. Quarterly groundwater sampling of the four on-Site wells was resumed in August 2011. On March 26, 2012, Ecology notified the Site owner that the January 2000 conditional NFA determination was rescinded because the benzene concentrations in groundwater samples from well MW-2 remained greater than the MTCA Method A CUL and the previous groundwater remedy (excavation of petroleum impacted soils followed by groundwater monitoring) did not achieve and maintain compliance with the applicable MTCA Method A CULs.

On November 28, 2012, a 12,000-gallon diesel fuel UST was removed south of the truck maintenance building (Figure 2). According to available information, the UST was emptied and removed from service in 1998 when the 550-gallon waste oil UST was decommissioned, and had not been operated between 1998 and 2012. EPI personnel oversaw the UST decommissioning activities and collected nine (9) soil samples and a water sample from the excavation. The diesel contaminated water was reportedly rinsate from the UST that was spilled as it was removed from the excavation due to improper rigging and hoisting of the UST. EPI prepared the *Underground Storage Tank Site Assessment Report,* dated January 4, 2013 (EPI, 2013a), for submittal to Ecology's Underground Storage Tank Division.

In an opinion letter dated April 22, 2013, Ecology requested installation of two additional wells designated MW-5 and MW-6. Well MW-5 was installed at the southwest corner of the truck maintenance building, near the on-Site oil water separator (OWS), to monitor groundwater downgradient of MW-1. Well MW-6 was installed at the southeast corner of the former 12,000-gallon diesel UST excavation to evaluate groundwater quality based on the reported petroleum hydrocarbon concentrations in a water sample collected from the rinseate water in the UST excavation (EPI, 2013b).

In October 2013, EPI performed a site investigation at Ecology's request. The investigation included advancing nine (9) direct-push soil borings (Figure 2); five locations around MW-1 and four locations downgradient of MW-6. Laboratory analytical results indicated soil impacts around MW-1 were limited to location DP-3, which is immediately adjacent to the exterior wall of the northwest corner of the Truck Maintenance Building. This result was anticipated because a small quantity of impacted soil was left in place immediately under the truck maintenance building to

maintain geotechnical stability during impacted soil excavation. None of the remaining soil samples had detections for petroleum hydrocarbons (EPI, 2013b).

On August 26, 2016, EPI directed the drilling of two soil borings, designated BH-1 and BH-2 for soil sample collection, and construction of two conditional point of compliance (POC) monitoring wells, designated MW-7 and MW-8. BH-1 and BH-2 were advanced east of the former 12,000-gallon diesel UST to evaluate subsurface conditions immediately downgradient of the former UST. Well MW-7 was installed southeast and downgradient of the former 12,000-gallon diesel UST and existing well MW-6. Well MW-8 was installed northeast of MW-7, also downgradient of the former 12,000-gallon diesel UST and existing well MW-6. The purpose of the POC monitoring wells is to monitor groundwater conditions downgradient of the former 12,000-gallon diesel UST, which is a source area for diesel impacts to groundwater at the Site (EPI, 2017a). The soil boring and monitoring wells locations are presented on Figure 2.

On August 11, 2017, monitoring well MW-9 was installed by Holt Services near the northwest corner of the truck maintenance building (Figure 2). The additional well was requested by CRT as part of their environmental due diligence prior to their purchase of the property. Historical direct-push sampling data from this location indicated TPH-d and TPH-o above MTCA Method A in a groundwater sample collected from the boring (EPI, 2017b).

Remedial System

Because groundwater data indicated that natural attenuation of the residual TPH-d and TPH-o impacts was not occurring at a rate that would result in a reasonable restoration timeframe, an active groundwater remediation system was designed, installed, and operated for the area around MW-1 as described in the following.

In May 2014, EPI installed three shallow air injection wells at locations upgradient of MW-1 (Figure 2). The purpose of the air injection wells and compressor system was to add dissolved oxygen (DO) to the groundwater. The increased DO concentrations in groundwater would stimulate existing aerobic bacteria by providing the oxygen necessary for those bacteria to metabolize dissolved petroleum hydrocarbons in groundwater.

Each of the shallow air injection wells was equipped with a 1-foot section of Kerfoot Technologies C-Sparger® screen set in a sand filter pack and fully submerged in groundwater at approximately 14 to 15 feet bgs.

Pressurized air pumped through the C-Sparger® screens forces air, containing oxygen, into groundwater as microbubbles, greatly increasing the surface area of the bubbles for more efficient oxygenation of the groundwater. The remaining well annulus

was sealed using hydrated bentonite chips and the surface was completed in 8-inch diameter flush completion steel monuments set in concrete.

An appropriately-sized rotary vane air compressor was installed in the fenced area at the north end of the truck maintenance building to provide air to the shallow air injection wells. The shallow air injection wells are connected to the compressor using 1-inch diameter polyvinyl chloride (PVC) piping installed below grade into each of the well monuments. PVC air supply lines were installed in trenches that were appropriately backfilled and patched with asphalt at the surface to match the surrounding pavement grade.

The remediation system was started and tested on May 15, 2014 after quarterly groundwater monitoring was completed. An electrical issue with the compressor motor caused the air injection remediation system to shut down in August 2014. Analytical results from the August 2014 monitoring event indicated that TPH-d and TPH-o concentrations were not reported, at or above laboratory method reporting limits (MRLs) in the sample from MW-1. Based on the favorable result, remediation system operation was suspended at MW-1 from August 2014 to April 2015 so that groundwater data could be collected to demonstrate that groundwater was remediated to concentrations below Ecology MTCA Method A Groundwater CULs, and to provide data intended to demonstrate that contaminant concentration rebound was not occurring.

The positive response to operation of the air injection remediation system at MW-1 demonstrated that expansion to remediate impacted groundwater at MW-6 was warranted. In January 2015, EPI installed three additional shallow air injection wells at locations upgradient of MW-6 (Figure 2). The three wells are constructed like the air injection wells at MW-1 and are equipped with 1-foot lengths of Kerfoot Technologies C-Sparger® screen set in a sand filter pack and fully submerged in groundwater at approximately 14- to 15 feet bgs.

Operation of the expanded air injection remediation system at MW-6 was initiated on April 3, 2015. The expanded system at MW-6 ran from April 3, 2015 until June 2015 when an electrical issue with the compressor motor caused the air injection remediation system to shut down, requiring replacement.

Repairs to the air injection system were completed and the remediation system was restarted on February 3, 2016. However, the system was not operational during the June 21, 2016 groundwater sampling event and inspection revealed that the compressor motor was damaged beyond repair due to overheating. Upon questioning on-Site workers, EPI was informed that the system had been off for several weeks prior to the sampling event. EPI has instructed the on-Site workers to immediately inform EPI or the property owner in the event of a system shut down in the future should one occur.

EPI evaluated the potential reasons for the compressor motor overheating and the likely cause was low voltage power throughout the area, which was measured at 208 volts at

the air injection system panel. The actual voltage was lower than the design voltage of 220-230 volts. EPI concluded that although the compressor motor was rated to operate down to 208 volts, voltage fluctuations below 208 volts caused high amperage on the motor, resulting in excessive heat that eventually seized the motor.

In November 2016, EPI installed a 1.5 horsepower, Republic Manufacturing, Model DRT-425 rotary vane compressor with a 208-volt-specific motor. The compressor was started up on November 16, 2016. The system was operational before and after the December 20, 2016 groundwater sampling event. Sometime between the December 20, 2016 monitoring event and a site visit by EPI personnel on March 20, 2017, the air injection system shut down. On March 20, 2017, EPI personnel inspected the compressor and determined that the rotary vanes were destroyed and required replacement. The compressor repair work was completed under warranty at the manufacturer's facility.

The repaired compressor was reconnected and returned to service on June 19, 2017. Both areas of the air injection system MW-1 and MW-6, were back in operation following the completion of groundwater monitoring on June 19, 2017.

Since installation in 2015, air injection well Al-6, located near monitoring well MW-6, consistently had little to no air flow. EPI tested, evaluated, and attempted to increase air flow through this point with no measurable improvement and determined that the well was plugged and unrepairable. On June 26, 2017, Holocene Drilling, under EPI direction, decommissioned Al-6 per Ecology requirements and replaced it with air injection well Al-6R.

The air injection system was inspected during a site visit by EPI on December 14, 2017 and again during quarterly monitoring on December 20, 2017 and was operating as designed with no excessive heat or mechanical issues noted. EPI returned to the property on January 2, 2018 to re-sample wells MW-4, MW-6, and MW-6 (described in the next section) and noted that the air compressor was not running. The compressor was replaced, and the air injection system re-started (EPI, 2018).

GROUNDWATER MONITORING

On May 17, 2018, ETG conducted a groundwater monitoring event which included collection of depth-to-water measurements and groundwater samples from monitoring wells MW-1 through MW-9. Depth-to-water measurements and groundwater elevation data are provided in Table 1. On May 15, 2018, at least 36-hours prior to the monitoring event, operation of the air injection system was suspended.

During collection of depth-to-water measurements, asphalt sealant was encountered in the monument for MW-8. After removal of the asphalt sealant, it was discovered that the locking expansion plug for the monitoring well was loose, and that asphalt sealant had seeped past the plug. Visible material was skimmed from the well surface and

monitoring well was purged of approximately 30 gallons of groundwater prior to sampling. During sampling, efforts were made to minimize drawdown in the well.

Monitoring Procedures

During the monitoring event, groundwater samples were collected utilizing "low-flow" sampling techniques in general accordance with the United States Environmental Protection Agency (USEPA) *Low-Flow Groundwater Monitoring Procedures* (USEPA, 1996). Prior to sampling, depth-to-water measurements were used to determine the static water level in each well. During purging, field parameters including: pH, conductivity, temperature, oxidation-reduction (Redox), and dissolved oxygen were measured utilizing a flow-through cell. Groundwater samples were collected after at least three sequential field parameter readings had stabilized to within the limits specified in the USEPA procedure and the water level was below the top of the screened interval. Field sampling data, including depth to water at the completion of sampling were recorded on field sampling data sheets (FSDSs). Copies of FSDSs are provided in Attachment A.

Groundwater samples were collected from disposable discharge tubing connected to the peristaltic pump and transferred directly to laboratory-supplied containers with as little agitation as possible. Groundwater samples were labeled with a unique blind code and delivered in an iced cooler using chain-of-custody (COC) procedure to Pace Analytical Services, LLC (PACE) in Minneapolis, Minnesota. All groundwater samples were analyzed for TPH-d and TPH-o by Ecology Method NWTPH-Dx. For quality assurance/quality control (QA/QC) purposes, a duplicate groundwater sample was collected from monitoring well MW-9.

All purge water, development water, and decontamination water was stored on-Site in a United States Deport of Transportation (USDOT)-approved 55-gallon drum pending proper disposal.

Groundwater Elevation and Flow Direction

Based on the depth-to-water measurements collected on May 17, 2018 from the nine (9) shallow monitoring wells, a groundwater elevation contour map was generated for the Site (Figure 3) using field measurements and data from a well survey completed on September 19, 2017. Groundwater elevation data indicated a predominantly easterly groundwater flow direction, consistent with prior monitoring events. The horizontal groundwater gradient was calculated to be less than 0.01 feet per foot (ft/ft) during the May 17, 2018 groundwater monitoring event.

Groundwater Analytical Results

A summary of laboratory analytical results for groundwater samples collected from monitoring wells MW-1 through MW-9 on May 17, 2018 are provided in Table 2 along with Ecology MTCA Method A CULs for comparison. Analytical results are also

presented on Figure 4. A copy of the laboratory analytical report is provided in Attachment B.

Analytical results for groundwater samples collected from monitoring wells MW-1 through MW-9 on May 17, 2018 indicated the following:

Diesel Range Hydrocarbons

- TPH-d was reported above the laboratory MRL in the groundwater samples collected from wells MW-3, MW-6, MW-8, and MW-9 at concentrations ranging from 470 micrograms per liter (μg/L) in the groundwater sample collected from monitoring well MW-9 to 1,900 μg/L in the groundwater sample collected from monitoring well MW-8. The reported results for the samples collected from monitoring wells MW-3, MW-6, and MW-8 were above the Ecology MTCA Method A CUL (500 μg/L).

  TPH-d was not reported at, or above, the laboratory MRL in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-4, MW-5 and MW-7.

Oil Range Hydrocarbons

- TPH-o was reported above the laboratory MRL and above the Ecology MTCA Method A CUL (500 μg/L) at a concentration of 2,800 μg/L in the groundwater sample collected from monitoring well MW-8.

  TPH-o was not reported at, or above, the laboratory MRL in the groundwater samples collected from monitoring wells MW-1 through MW-7, and MW-9.

Total Diesel and Oil Range Hydrocarbons

- Total TPH-d and TPH-o was reported above the Ecology MTCA Method A CUL (500 μg/L) in the groundwater samples collected from wells MW-3, MW-8, and MW-9 at concentrations ranging from 520 μg/L in the groundwater sample collected from monitoring well MW-3 to 4,700 μg/L in the groundwater sample collected from monitoring well MW-8.

  Total TPH-d and TPH-o was as not reported above the Ecology MTCA Method A CUL (500 μg/L) in the groundwater samples collected from monitoring wells MW-1, MW-2, MW-4, MW-5, MW-7, and MW-9.

MW-8 – CLEANING, DEVELOPMENT, AND RE-SAMPLING

On June 5, 2018, ETG returned to clean, develop, and re-sample MW-8 due to the asphalt sealer contamination encountered during the May 17, 2018 groundwater monitoring event. The following sections present the actions taken to clean the monitoring well, complete additional well development after cleaning, and to collect a groundwater

sample. Photographs of the well monument and casing, prior to and following field activities, are provided as Attachment C.

Cleaning Procedures

On June 5, 2018, ETG cleaned the casing for monitoring well MW-8, using clean absorbent pads to wipe the well casing. The cleaning was completed above the groundwater level to minimize transfer of asphalt sealant into the saturated portion of the well. Once the absorbent pads no longer indicate asphalt sealant, a final methanol treated absorbent pad was using for a final wipe of the casing above groundwater.

Development Procedures

Following cleaning of MW-8's casing and monument, monitoring MW-8 was developed by extracting water with a development beginning at the top of the groundwater surface and lowering the pump as groundwater dropped in elevation. This process was repeated approximately 15 times until the purge water no longer changed in color between purging events. A total of 25 gallons of groundwater was removed from the well and stored in a USDOT-approved 55-gallon drum on-Site pending proper disposal.

Monitoring Procedures

Following cleaning and well development, a groundwater sample was collected utilizing "low-flow" sampling techniques in general accordance with the USEPA *Low-Flow Groundwater Monitoring Procedures* (USEPA, 1996). Prior to sampling, a depth-to-water measurement was used to determine the static water level in the well. During purging, field parameters including: pH, conductivity, temperature, Redox, and dissolved oxygen were measured utilizing a flow-through cell. A groundwater sample was collected after at least three sequential field parameter readings had stabilized to within the limits specified in the USEPA procedure and the water level was below the top of the screened interval. Field sampling data, including depth to water at the completion of sampling was recorded on a FSDS. A copy of the FSDS is provided in Attachment A.

The groundwater sample was collected from disposable discharge tubing connected to the peristaltic pump and transferred directly to laboratory-supplied containers with as little agitation as possible. The groundwater sample was labeled with a unique blind code and delivered in an iced cooler using COC procedure to PACE in Minneapolis, Minnesota. The groundwater sample was analyzed for TPH-d and TPH-o by Ecology Method NWTPH-Dx.

Groundwater Analytical Results

Laboratory analytical results for the groundwater sample collected from monitoring well MW-8 on June 5, 2018 is provided in Table 2 along with Ecology MTCA Method A CULs for comparison. Analytical results are also presented on Figure 4. A copy of the laboratory analytical report is provided in Attachment B.

Analytical results for groundwater samples collected from monitoring well MW-8 on June 5, 2018 indicated the following:

Diesel Range Hydrocarbons

- TPH-d was reported above the laboratory MRL in the groundwater sample collected from well MW-8 at a concentration of 850 μg/L, above the Ecology MTCA Method A CUL (500 μg/L). However, the reported result was 55 percent (%) lower than the May 2018 sample.

Oil Range Hydrocarbons

- TPH-o was reported above the laboratory MRL in the groundwater sample collected from well MW-8 at a concentration of 770 μg/L, above the Ecology MTCA Method A CUL (500 μg/L). However, the reported result was 72.5 % lower than the May 2018 sample.

Total Diesel and Oil Range Hydrocarbons

- Total TPH-d and TPH-o was reported in the groundwater sample collected from well MW-8 at a concentration of 1,620 μg/L, above the Ecology MTCA Method A CUL (500 μg/L). However, the reported result was 65.5 % lower than the May 2018 sample.

REMEDIAL SYSTEM OPERATION

On May 15, 2018 at 13:30 PM, operation of the air injection system was suspended for the May 17, 2018 groundwater monitoring event. Following completion of the monitoring event, air injection system operation was resumed. On June 5, 2018, the system was inspected and was continuing to operate. Dissolved oxygen data collected during the May 2018 monitoring event (Table 1) indicate lower concentrations in groundwater downgradient of the injection wells, indicative of microbial activity in the subsurface.

Based on the May 2018 monitoring results, air injection system operation will continue until a conditional NFA has been completed at the Site. Continued operation will provide subsurface oxygen to enhance the natural attenuation of residual petroleum hydrocarbons in soil and groundwater near MW-1, MW-4, MW-6, and MW-9.

SCHEDULED ACTIONS

The third quarter groundwater monitoring event occurred on August 22, 2018. Groundwater level measurements were be collected from monitoring wells MW-1 through MW-9. Groundwater samples were collected from monitoring wells MW-1, MW-6, MW-8, and MW-9 and analyzed for TPH-d and TPH-o. The sample from MW-8 was also be analyzed for gasoline range petroleum hydrocarbons (TPH-g), full list

volatile organic compounds (VOCs), carcinogenic polynuclear aromatic hydrocarbons (cPAHs), total lead, and polychlorinated biphenyls (PCBs).

If there are any questions regarding this report please call.

Sincerely,

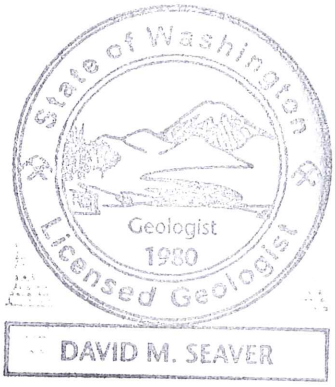
Environmental Technologies Group, Inc.

Daniel J. Landry
Senior Project Manager

David M. Seaver, L.G.
Senior Geologist

Attachments: References
Limitations
Tables 1 and 2
Figures 1, 2, 3, and 4
Attachment A, B, and C

cc: Ms. Angela Maidment, CRT



REFERENCES

EMR. 1999. *Remedial Investigation/Feasibility Study*, Provisioners Express Auburn Facility, 2102 West Valley Highway, Auburn, Washington. Environmental Management Resources, Inc. March.

EPI. 2013a. *Underground Storage Tank Site Assessment Report,* Estes Express Facility, 2102 West Valley Highway North, Auburn, Washington. Environmental Partners, Inc. January 4.

EPI. 2013b. *Phase II Environmental Site Assessment Report*, Estes West Express Trucking Facility, 2102 West Valley Highway North, Auburn, Washington. Environmental Partners, Inc. December 9.

EPI. 2017a. *September and December 2016 Groundwater Sampling Report – Twenty and Twenty-First Rounds*, Estes West Express Trucking Facility, 2102 West Valley Highway North, Auburn, Washington. Environmental Partners, Inc. February 24.

EPI. 2017b. *September 2017 Groundwater Sampling Report – Twenty-Fourth Round*, Estes West Express Trucking Facility, 2102 West Valley Highway North, Auburn, Washington. Environmental Partners, Inc. October 3.

EPI. 2018. *December 2017 – January 2018 Groundwater Sampling Report – Twenty-Fifth Round*, Estes West Express Trucking Facility, 2102 West Valley Highway North, Auburn, Washington. Environmental Partners, Inc. February 21.

USEPA. 1996. *Low-Flow Groundwater Monitoring Procedures*, USEPA/540/S-95/504, United States Environmental Protection Agency. April.

LIMITATIONS

The services described in 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, nor the use of segregated portions of this report.

The purpose of a geologic/hydrogeologic study is to reasonably characterize existing site conditions based on the geology/hydrogeology of the area. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to describe all geologic/hydrogeologic conditions of interest at a given site. If conditions have not been identified during the study, such a finding should not therefore be construed as a guarantee of the absence of such conditions at the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

We are unable to report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed.

Geologic/hydrogeologic conditions may exist at the site that cannot be identified solely by visual observation. Where subsurface exploratory work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

Table 1
Groundwater Elevation Summary

Well Number/ TOC Elevation	Date of Measurement	Dissolved Oxygen (mg/L)	DTW (feet)	SWL (feet)	Change in SWL (feet)
MW-1					
60.77	08/12/11	--	6.12	54.65	--
	11/11/11	--	5.42	55.35	0.70
	02/10/12	--	4.76	56.01	0.66
	05/17/12	--	5.35	55.42	-0.59
	08/28/12	--	6.28	54.49	-0.93
	11/15/12	--	4.99	55.78	1.29
	02/14/13	--	5.22	55.55	-0.23
	05/16/13	--	5.42	55.35	-0.20
	08/14/13	0.21	6.17	54.60	-0.75
	11/25/13	0.29	5.06	55.71	1.11
	02/20/14	0.25	3.62	57.15	1.44
	05/15/14	0.41	4.76	56.01	-1.14
	08/14/14	7.69	7.32	53.45	-2.56
	11/24/14	0.67	5.22	55.55	2.10
	03/31/15	0.45	4.99	55.78	0.23
	06/29/15	0.15	6.23	54.54	-1.24
	09/28/15	0.40	6.37	54.40	-0.14
	03/03/16	10.71	2.18	58.59	4.19
	06/21/16	4.82	5.82	54.95	-3.64
	09/16/16	0.16	5.99	54.78	-0.17
	12/20/16	7.69	4.92	55.85	1.07
	03/24/17	1.99	3.33	57.44	1.59
	06/16/17	0.93	4.25	56.52	-0.92
	09/05/17	0.49	6.17	54.60	-1.92
	12/20/17	11.2	4.45	56.32	1.72
	05/17/18	5.90	5.50	55.27	-1.05
MW-2					
60.85	08/12/11	--	5.51	55.34	--
	11/11/11	--	5.13	55.72	0.38
	02/10/12	--	4.94	55.91	0.19
	05/17/12	--	5.42	55.43	-0.48
	08/28/12	--	6.40	54.45	-0.98
	11/15/12	--	5.12	55.73	1.28
	02/14/13	--	5.32	55.53	-0.20
	05/16/13	--	5.48	55.37	-0.16
	08/14/13	0.58	6.33	54.52	-0.85
	11/25/13	0.27	5.14	55.71	1.19
	02/20/14	3.08	2.23	58.62	2.91
	05/15/14	0.12	4.86	55.99	-2.63
	08/14/14	0.36	4.93	55.92	-0.07
	11/24/14	0.14	3.70	57.15	1.23
	03/31/15	2.12	5.02	55.83	-1.32
	06/29/15	0.28	6.36	54.49	-1.34
	09/28/15	0.84	6.50	54.35	-0.14
	03/03/16	1.34	2.64	58.21	3.86
	06/21/16	0.74	5.95	54.90	-3.31
	09/16/16	0.15	6.13	54.72	-0.18
	12/20/16	0.87	4.71	56.14	1.42
	03/24/17	--	3.09	57.76	1.62
	06/16/17	0.51	4.75	56.10	-1.66
	09/05/17	0.55	6.32	54.53	-1.57
	12/20/17	4.41	4.21	56.64	2.11
	05/17/18	0.56	5.60	55.25	-1.39
MW-3					
60.80	08/12/11	--	5.54	55.26	--
	11/11/11	--	8.90	51.90	-3.36
	02/10/12	--	5.05	55.75	3.85
	05/17/12	--	5.60	55.20	-0.55
	08/28/12	--	6.40	54.40	-0.80
	11/15/12	--	5.25	55.55	1.15
	02/14/13	--	5.38	55.42	-0.13

Table 1
Groundwater Elevation Summary

Well Number/ TOC Elevation	Date of Measurement	Dissolved Oxygen (mg/L)	DTW (feet)	SWL (feet)	Change in SWL (feet)
MW-3	05/16/13	--	5.56	55.24	-0.18
continued	08/14/18	0.37	6.31	54.49	-0.75
	11/25/13	0.41	5.22	55.58	1.09
	02/20/14	0.26	4.34	56.46	0.88
	05/15/14	0.77	5.03	55.77	-0.69
	08/14/14	0.29	6.28	54.52	-1.25
	11/24/14	0.05	5.21	55.59	1.07
	03/31/15	1.24	5.15	55.65	0.06
	06/29/15	0.25	6.37	54.43	-1.22
	09/28/15	0.25	6.51	54.29	-0.14
	03/03/16	1.48	4.55	56.25	1.96
	06/21/16	0.90	5.93	54.87	-1.38
	09/16/16	0.11	6.09	54.71	-0.16
	12/20/16	1.94	5.38	55.42	0.71
	03/24/17	--	4.57	56.23	0.81
	06/16/17	0.29	5.23	55.57	-0.66
	09/05/17	0.21	6.30	54.50	-1.07
	12/20/17	0.78	4.91	55.89	1.39
	05/17/18	0.71	5.63	55.17	-0.72
MW-4					
60.93	08/12/11	--	6.37	54.56	--
	11/11/11	--	5.65	55.28	0.72
	02/10/12	--	5.20	55.73	0.45
	05/17/12	--	5.63	55.30	-0.43
	08/28/12	--	6.50	54.43	-0.87
	11/15/12	--	5.36	55.57	1.14
	02/14/13	--	5.50	55.43	-0.14
	05/16/13	--	5.67	55.26	-0.17
	08/14/13	0.18	6.42	54.51	-0.75
	11/25/13	--	5.31	55.62	1.11
	02/20/14	0.37	4.45	56.48	0.86
	05/15/14	0.45	5.14	55.79	-0.69
	08/14/14	0.27	6.33	54.60	-1.19
	11/24/14	0.04	5.27	55.66	1.06
	03/31/15	0.98	5.27	55.66	0.00
	06/29/15	0.15	6.45	54.48	-1.18
	09/28/15	0.27	6.62	54.31	-0.17
	03/03/16	4.79	3.20	57.73	3.42
	06/21/16	0.49	6.11	54.82	-2.91
	09/16/16	0.64	6.40	54.53	-0.29
	12/20/16	0.75	6.32	54.61	0.08
	03/24/17	0.23	4.69	56.24	1.63
	06/16/17	0.24	5.36	55.57	-0.67
	09/05/17	0.58	6.39	54.54	-1.03
	12/20/17	0.75	5.00	55.93	1.39
	01/02/18	1.52	5.00	55.93	0.00
	05/17/18	0.57	5.74	55.19	-0.74
MW-5					
60.90	08/14/13	0.21	6.31	54.59	--
	11/25/13	--	5.24	55.66	1.07
	02/20/14	--	4.38	56.52	0.86
	05/15/14	0.29	5.06	55.84	-0.68
	08/14/14	--	6.31	54.59	-1.25
	11/24/14	0.08	5.24	55.66	1.07
	03/31/15	1.09	5.17	55.73	0.07
	06/29/15	0.28	6.35	54.55	-1.18
	09/28/15	0.52	6.51	54.39	-0.16
	03/03/16	2.03	4.59	56.31	1.92
	06/21/16	0.40	5.96	54.94	-1.37
	09/16/16	0.10	6.11	54.79	-0.15
	12/20/16	1.09	5.16	55.74	0.95
	03/24/17	--	4.61	56.29	0.55

Table 1
Groundwater Elevation Summary

Well Number/ TOC Elevation	Date of Measurement	Dissolved Oxygen (mg/L)	DTW (feet)	SWL (feet)	Change in SWL (feet)
MW-5 continued	06/16/17	0.30	5.27	55.63	-0.66
	09/05/17	0.51	6.27	54.63	-1.00
	12/20/17	0.93	4.92	55.98	1.35
	01/02/18	1.20	4.92	55.98	0.00
	05/17/18	0.95	5.65	55.25	-0.73
MW-6 60.76	08/14/13	0.22	6.21	54.55	--
	11/25/13	--	5.13	55.63	1.08
	02/20/14	0.29	4.27	56.49	0.86
	05/15/14	0.33	4.97	55.79	-0.70
	08/14/14	0.20	6.13	54.63	-1.16
	11/24/14	0.09	5.08	55.68	1.05
	03/31/15	0.09	5.10	55.66	-0.02
	06/29/15	0.17	6.27	54.49	-1.17
	09/28/15	0.37	6.42	54.34	-0.15
	03/03/16	0.67	4.53	56.23	1.89
	06/21/16	0.52	5.91	54.85	-1.38
	09/16/16	0.33	6.01	54.75	-0.10
	12/20/16	1.30	5.14	55.62	0.87
	03/24/17	0.18	4.52	56.24	0.62
	06/16/17	0.23	5.18	55.58	-0.66
	09/05/17	0.61	6.23	54.53	-1.05
	12/20/17	0.76	4.80	55.96	1.43
	01/02/18	0.86	4.80	55.96	0.00
	05/17/18	0.35	5.57	55.19	-0.77
MW-7 59.87	09/16/16	0.57	5.15	54.72	--
	12/20/16	0.72	5.27	54.60	-0.12
	03/24/17	0.23	3.68	56.19	1.59
	06/16/17	0.31	4.33	55.54	-0.65
	09/05/17	0.21	5.43	54.44	-1.10
	12/20/17	0.94	3.95	55.92	1.48
	05/17/18	0.53	4.71	55.16	-0.76
MW-8 59.70	09/16/16	0.52	5.09	54.61	--
	12/20/16	1.29	4.62	55.08	0.47
	03/24/17	0.33	3.67	56.03	0.95
	06/16/17	0.28	4.21	55.49	-0.54
	09/05/17	0.34	5.31	54.39	-1.10
	12/20/17	1.39	3.78	55.92	1.53
	05/17/18	0.62	4.66	55.04	-0.88
	06/05/18	0.67	5.90	53.80	-1.24
MW-9 60.91	09/05/17	0.38	6.33	54.58	--
	12/20/17	4.73	4.73	56.18	1.60
	05/17/18	0.67	5.64	55.27	-0.91

Notes:

TOC - Top of casing
mg/L - Milligrams per liter
DTW - Depth to water
-- - Not applicable
SWL - Static water level
NC - Not collected

Wells surveyed to the North American Vertical Datum of 1988 (NAVD 88) on September 19, 2017.

Table 2
Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)	Ecology Method NWTPH-Dx (µg/L)			Volatile Organic Compounds USEPA Method 8021B/8260B (µg/L)			
Well ID	**Sample ID**	**Collection Date**	**TPH-g**	**TPH-d**	**TPH-o**	**Total TPH (C_{12} - C_{36})**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
MW-1	NA	8/12/2011	<100	<250	<500	<500	<1	<1	<1	<3
	NA	11/11/2011	<100	**1,500**	300	**1,800**	<1	<1	<1	<3
	NA	2/10/2012	<100	**690**	<250	**690**	<1	<1	<1	<3
	NA	5/17/2012	<100	**1,100**	480	**1,580**	<1	<1	<1	<3
	NA	8/28/2012	<100	**1,200**	**820**	**2,020**	<1	<1	<1	<3
	NA	11/15/2012	<100	**2,700**	**1,200**	**3,900**	<1	<1	<1	<3
	NA	2/14/2013	<100	**1,600**	**510**	**2,110**	<1	<1	<1	<3
	NA	5/16/2013	<100	**1,500**	340	**1,840**	<1	<1	<1	<3
	NA	8/14/2013	<100	**1,100**	290	**1,390**	<1	<1	<1	<3
	NA	11/25/2013	--	**1,400**	400	**1,800**	--	--	--	--
	NA	2/20/2014	--	**700**	280	**980**	--	--	--	--
	NA	5/15/2014	--	**940**	<250	**940**	--	--	--	--
	NA	8/14/2014	--	<50	<250	<250	--	--	--	--
	NA	11/24/2014	--	220	<250	220	--	--	--	--
	NA	3/31/2015	--	340	<250	340	--	--	--	--
	NA	6/29/2015	--	240	<250	240	--	--	--	--
	NA	9/28/2015	--	**700**	290	**990**	--	--	--	--
	NA	3/3/2016	--	220	<250	220	--	--	--	--
	NA	6/21/2016	--	160	<250	160	--	--	--	--
	NA	9/16/2016	--	**580**	420	**1,000**	--	--	--	--
	NA	12/20/2016	--	190	<250	190	--	--	--	--
	NA	3/24/2017	--	53	<250	53	--	--	--	--
	NA	6/19/2017	--	310	**560**	**870**	--	--	--	--
	NA	9/5/2017	--	340	340	**680**	--	--	--	--
	NA	12/20/2017	--	150	340	490	--	--	--	--
	EW-051718-1	5/17/2018	--	<400	<400	<400	--	--	--	--
MW-2	NA	8/12/2011	<100	<250	<500	<500	<1	<1	<1	<3
	NA	11/11/2011	<100	500	<250	500	<1	<1	<1	<3
	NA	2/10/2012	<100	<50	<250	<250	<1	<1	<1	<3
	NA	5/17/2012	<100	<50	<250	<250	<1	<1	<1	<3
	NA	8/28/2012	<100	470	**730**	**1,200**	<1	<1	<1	<3
	NA	11/15/2012	<100	140	<260	140	<1	<1	<1	<3
	NA	2/14/2013	<100	94	260	354	<1	<1	<1	<3
	NA	5/16/2013	<100	77	<250	77	<1	<1	<1	<3
	NA	8/14/2013	<100	280	<250	280	<1	<1	<1	<3
	NA	11/25/2013	--	53	<250	53	--	--	--	--
	NA	2/20/2014	--	<50	<250	<250	--	--	--	--
	NA	5/15/2014	--	<50	<250	<250	--	--	--	--
	NA	8/14/2014	--	100	<250	100	--	--	--	--
	NA	11/24/2014	--	<50	<250	<250	--	--	--	--
	NA	3/31/2015	--	57	<250	57	--	--	--	--
	NA	6/29/2015	--	97	<250	97	--	--	--	--
	NA	9/28/2015	--	150	<250	150	--	--	--	--
	NA	3/3/2016	--	<50	<250	<250	--	--	--	--
	NA	6/21/2016	--	86	<250	86	--	--	--	--
	NA	9/16/2016	--	95	<250	95	--	--	--	--
	NA	12/20/2016	--	<50	<250	<250	--	--	--	--
	NA	6/19/2017	--	61	<250	61	--	--	--	--
	NA	9/5/2017	--	100	<250	100	--	--	--	--
	NA	12/20/2017	--	<50	<250	<250	--	--	--	--
	EW-051718-4	5/17/2018	--	<410	<410	<410	--	--	--	--
MW-3	NA	8/12/2011	<100	<250	<500	<500	<1	<1	<1	<3
	NA	11/11/2011	<100	65	<250	65	<1	<1	<1	<3
	NA	2/10/2012	<100	100	<250	100	<1	<1	<1	<3
	NA	5/17/2012	<100	53	<250	53	<1	<1	<1	<3
	NA	8/28/2012	<100	130	<250	130	<1	<1	<1	<3
	NA	11/15/2012	<100	120	<280	120	<1	<1	<1	<3

Table 2
Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)	Ecology Method NWTPH-Dx (µg/L)			Volatile Organic Compounds USEPA Method 8021B/8260B (µg/L)			
Well ID	**Sample ID**	**Collection Date**	**TPH-g**	**TPH-d**	**TPH-o**	**Total TPH (C_{12} - C_{36})**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
MW-3	NA	2/14/2013	<100	150	<250	150	<1	<1	<1	<3
Continued	NA	5/16/2013	<100	200	<250	200	<1	<1	<1	<3
	NA	8/14/2013	<100	140	<250	140	<1	<1	<1	<3
	NA	11/25/2013	--	170	<250	170	--	--	--	--
	NA	2/20/2014	--	160	<250	160	--	--	--	--
	NA	5/15/2014	--	120	<250	120	--	--	--	--
	NA	8/14/2014	--	140	<250	140	--	--	--	--
	NA	11/24/2014	--	130	<250	130	--	--	--	--
	NA	3/31/2015	--	220	<250	220	--	--	--	--
	NA	6/29/2015	--	130	<250	130	--	--	--	--
	NA	9/28/2015	--	110	<250	110	--	--	--	--
	NA	3/3/2016	--	92	<250	92	--	--	--	--
	NA	6/21/2016	--	85	<250	85	--	--	--	--
	NA	9/16/2016	--	100	<250	100	--	--	--	--
	NA	12/20/2016	--	99	<250	99	--	--	--	--
	NA	6/19/2017	--	310	<250	310	--	--	--	--
	NA	9/5/2017	--	210	<250	210	--	--	--	--
	NA	12/20/2017	--	150	<250	150	--	--	--	--
	EW-051718-9	5/17/2018	--	**520**	<400	**520**	--	--	--	--
MW-4	NA	8/12/2011	<100	<250	<500	<500	<1	<1	<1	<3
	NA	11/11/2011	<100	72	<250	72	<1	<1	<1	<3
	NA	2/10/2012	<100	150	<250	150	<1	<1	<1	<3
	NA	5/17/2012	<100	160	<250	160	<1	<1	<1	<3
	NA	8/28/2012	<100	200	<250	200	<1	<1	<1	<3
	NA	11/15/2012	<100	220	<250	220	<1	<1	<1	<3
	NA	2/14/2013	<100	220	<250	220	<1	<1	<1	<3
	NA	5/16/2013	<100	210	<250	210	<1	<1	<1	<3
	NA	8/14/2013	<100	200	<250	200	<1	<1	<1	<3
	NA	2/20/2014	--	140	<250	140	--	--	--	--
	NA	5/15/2014	--	140	<250	140	--	--	--	--
	NA	8/14/2014	--	290	<250	290	--	--	--	--
	NA	11/24/2014	--	290	<250	290	--	--	--	--
	NA	3/31/2015	--	320	<250	320	--	--	--	--
	NA	6/29/2015	--	240	<250	240	--	--	--	--
	NA	9/28/2015	--	220	<250	220	--	--	--	--
	NA	3/3/2016	--	130	<250	130	--	--	--	--
	NA	6/21/2016	--	63	<250	63	--	--	--	--
	NA	9/29/2016	--	68	<250	68	--	--	--	--
	NA	12/20/2016	--	78	<250	78	--	--	--	--
	NA	3/24/2017	--	<50	<250	<250	--	--	--	--
	NA	6/19/2017	--	110	<250	110	--	--	--	--
	NA	9/5/2017	--	150	<250	150	--	--	--	--
	NA	1/2/2018	--	<50	<250	<250	--	--	--	--
	EW-051718-8	5/17/2018	--	<400	<400	<400	--	--	--	--
MW-5	NA	6/5/2013	<100	160	<250	160	<1	<1	<1	<3
	NA	8/14/2013	<100	56	<250	56	<1	<1	<1	<3
	NA	11/24/2014	<100	<50	<250	<250	--	--	--	--
	NA	3/31/2015	--	52	<250	52	--	--	--	--
	NA	6/29/2015	--	<50	<250	<250	--	--	--	--
	NA	9/28/2015	--	<50	<250	<250	--	--	--	--
	NA	3/3/2016	--	<50	<250	<250	--	--	--	--
	NA	6/21/2016	--	<50	<250	<250	--	--	--	--
	NA	9/16/2016	--	<50	<250	<250	--	--	--	--
	NA	12/20/2016	--	<50	<250	<250	--	--	--	--
	NA	6/19/2017	--	55	<250	55	--	--	--	--
	NA	9/5/2017	--	68	<250	68	--	--	--	--

Table 2
Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)	Ecology Method NWTPH-Dx (µg/L)			Volatile Organic Compounds USEPA Method 8021B/8260B (µg/L)			
Well ID	**Sample ID**	**Collection Date**	**TPH-g**	**TPH-d**	**TPH-o**	**Total TPH (C_{12} - C_{36})**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**
MW-5	NA	1/2/2018	--	<50	<250	<250	--	--	--	--
Continued	EW-051718-5	5/17/2018	--	<380	<380	<380	--	--	--	--
MW-6	NA	6/5/2013	<100	**680**	<250	**680**	<1	<1	<1	<3
	NA	8/14/2013	<100	**790**	<250	**790**	<1	<1	<1	<3
	NA	2/20/2014	--	**740**	<250	**740**	--	--	--	--
	NA	5/15/2014	--	**950**	<250	**950**	--	--	--	--
	NA	8/14/2014	--	**1,200**	<250	**1,200**	--	--	--	--
	NA	11/24/2014	--	**680**	<250	**680**	--	--	--	--
	NA	3/31/2015	--	**750**	<250	**750**	--	--	--	--
	NA	6/29/2015	--	**750**	<250	**750**	--	--	--	--
	NA	9/28/2015	--	**610**	<250	**610**	--	--	--	--
	NA	3/3/2016	--	**1,100**	390	**1,490**	--	--	--	--
	NA	6/21/2016	--	**650**	<250	**650**	--	--	--	--
	NA	9/16/2016	--	340	<250	340	--	--	--	--
	NA	12/20/2016	--	**640**	<250	**640**	--	--	--	--
	NA	3/24/2017	--	**580**	<250	**580**	--	--	--	--
	NA	6/19/2017	--	**970**	280	**1,250**	--	--	--	--
	NA	9/5/2017	--	320	<250	320	--	--	--	--
	NA	1/2/2018	--	240	<250	240	--	--	--	--
	EW-051718-6	5/17/2018	--	**880**	<400	**880**	--	--	--	--
MW-7	NA	9/16/2016	--	140	<250	140	--	--	--	--
	NA	12/20/2016	--	78	<250	78	--	--	--	--
	NA	3/24/2017	--	<50	<250	<250	--	--	--	--
	NA	6/19/2017	--	100	<250	100	--	--	--	--
	NA	9/5/2017	--	59	<250	59	--	--	--	--
	NA	12/20/2017	--	99	<250	99	--	--	--	--
	EW-051718-7	5/17/2018	--	<380	<380	<380	--	--	--	--
MW-8	NA	10/3/2016	--	290	<250	290	--	--	--	--
	NA	12/20/2016	--	140	<250	140	--	--	--	--
	NA	3/24/2017	--	<50	<250	<250	--	--	--	--
	NA	6/26/2017	--	180	<250	180	--	--	--	--
	NA	9/5/2017	--	160	<250	160	--	--	--	--
	NA	12/20/2017	--	140	<250	140	--	--	--	--
	EW-051718-10	5/17/2018	--	**1,900**	**2,800**	**4,700**	--	--	--	--
	EW-060518-1	6/5/2018	--	**850**	**770**	**1,620**	--	--	--	--
MW-9	NA	9/5/2017	--	**4,300**	<250	**4,300**	--	--	--	--
	NA	12/20/2017	--	360	<250	360	--	--	--	--
	EW-051718-2	5/17/2018	--	450	<400	450	--	--	--	--
duplicate	EW-051718-3	5/17/2018	--	470	<390	470	--	--	--	--
MTCA Method A Cleanup Levels for Groundwater[a]			**800/1,000[b]**	**500**	**500**	**500**	**5**	**1,000**	**700**	**1,000**

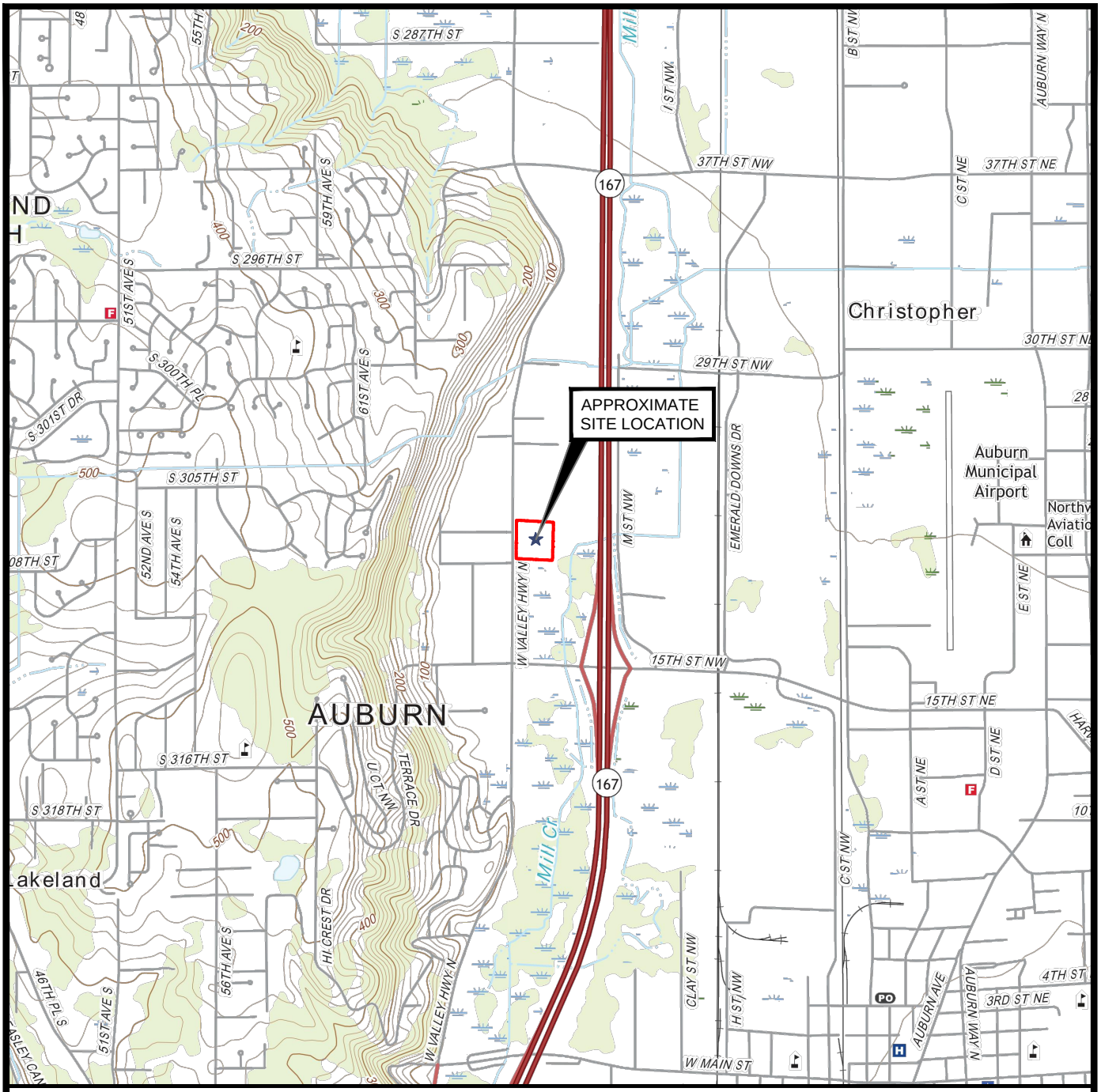
Notes:

MTCA - Model Toxics Control Act
USEPA - United States Environmental Protection Agency
CCL - Contaminant Cleanup Level
Bold - Value exceeds MTCA Method A cleanup level
TPH-d - diesel range total petroleum hydrocarbons
TPH-g - gasoline range total petroleum hydrocarbons
TPH-o - total petroleum hydrocarbons in the oil range

µg/L - micrograms per liter
-- - Not Analyzed
<1 - Not reported at, or above the indicated laboratory method reporting limit
NS - Not Sampled
NA - Not Applicable

[a] MTCA Method A Groundwater Cleanup Levels for Unrestricted Land Uses are referenced from the February 12, 2001. *Washington Department of Ecology Model Toxics Control Act Cleanup Regulation Chapter 173-340,* Table 720-1.

[b] 800 µg/L if benzene has been detected in groundwater; 1,000 µg/L if benzene has not been detected in groundwater.



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
AUBURN, WA AND POVERTY BAY, WA (2017)

SCALE FEET
0 2,000 4,000

N

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Eugene, Oregon 97402
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fax: 541-743-2471
www.etgroupinc.com

FIGURE TITLE	***SITE LOCATION MAP***
DOCUMENT TITLE	SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT
CLIENT	ESTES EXPRESS LINES, INC.
LOCATION	FORMER PROVISIONERS EXPRESS FACILITY 2102 WEST VALLEY HIGHWAY NORTH, AUBURN, WASHINGTON

DATE	8/28/18
SCALE	AS SHOWN
DESIGNED BY	DJL
APPROVED BY	DJL
DRAWN BY	SRM
PROJECT NUMBER	2004-004.002
FIGURE NUMBER	1

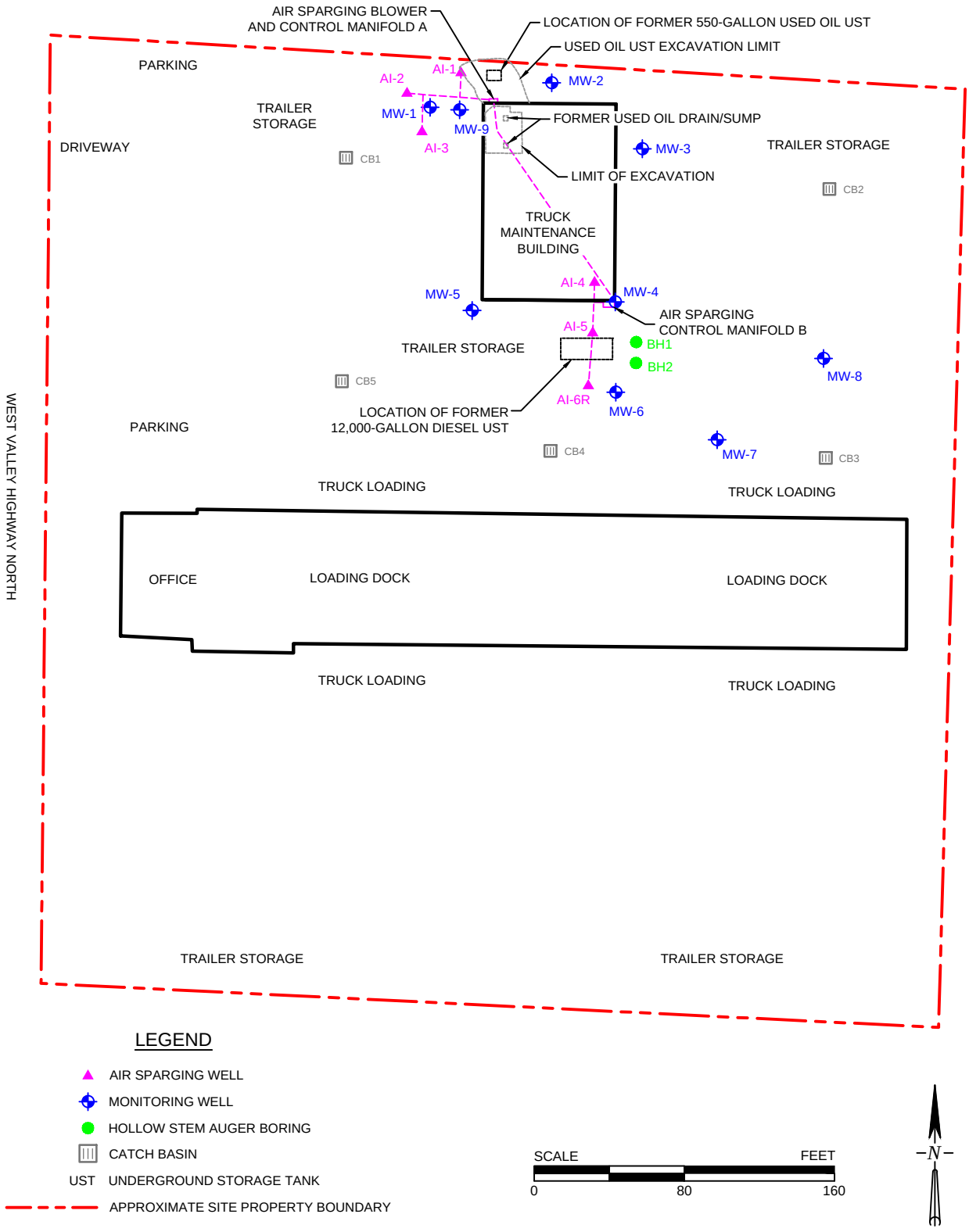

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FIGURE TITLE	***SITE MAP***
DOCUMENT TITLE	SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT
CLIENT	ESTES EXPRESS LINES, INC.
LOCATION	FORMER PROVISIONERS EXPRESS FACILITY 2102 WEST VALLEY HIGHWAY NORTH, AUBURN, WASHINGTON

DATE	8/29/18
SCALE	AS SHOWN
DESIGNED BY	DJL
APPROVED BY	DJL
DRAWN BY	SRM
PROJECT NUMBER	2004-004.002
FIGURE NUMBER	2

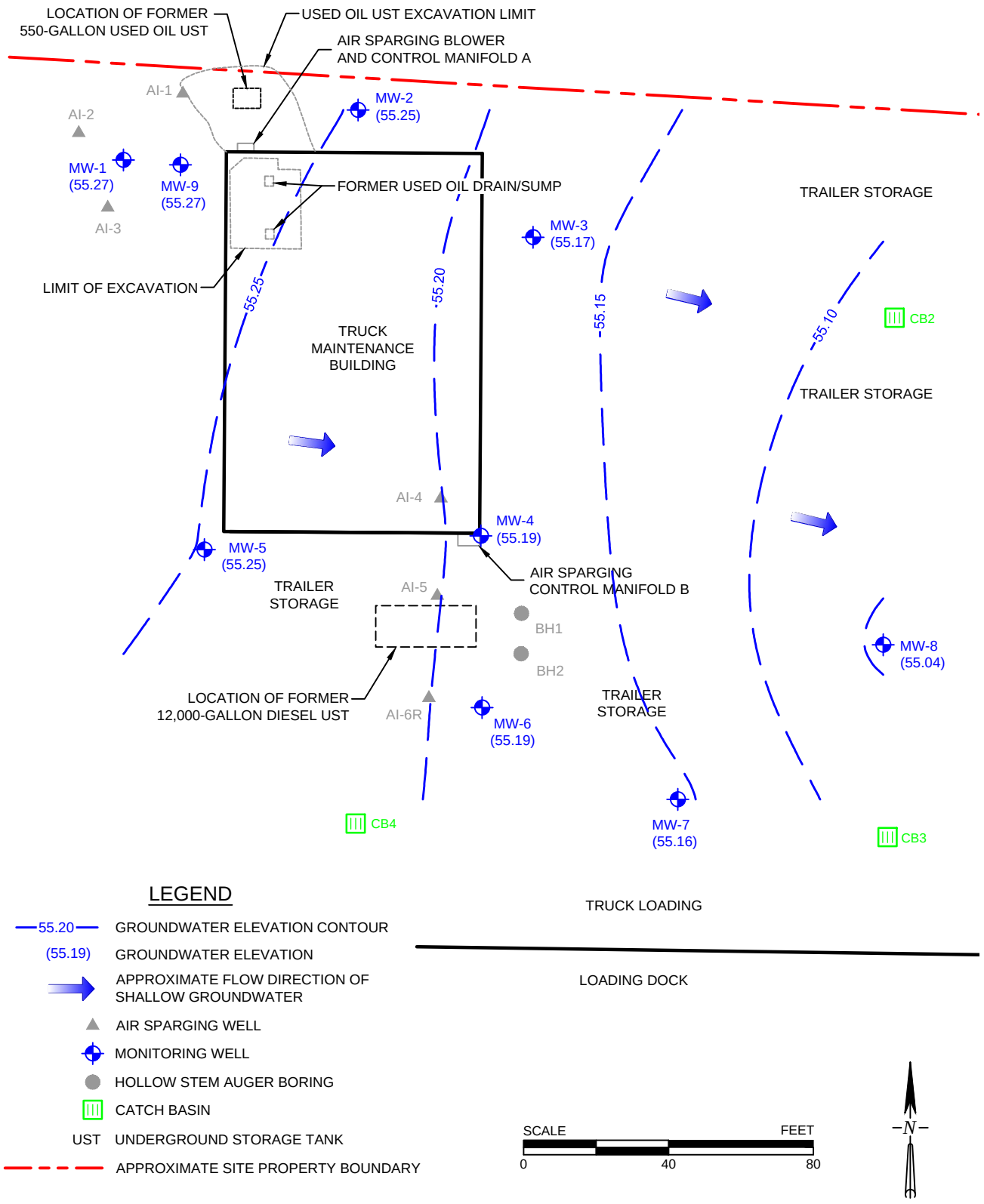

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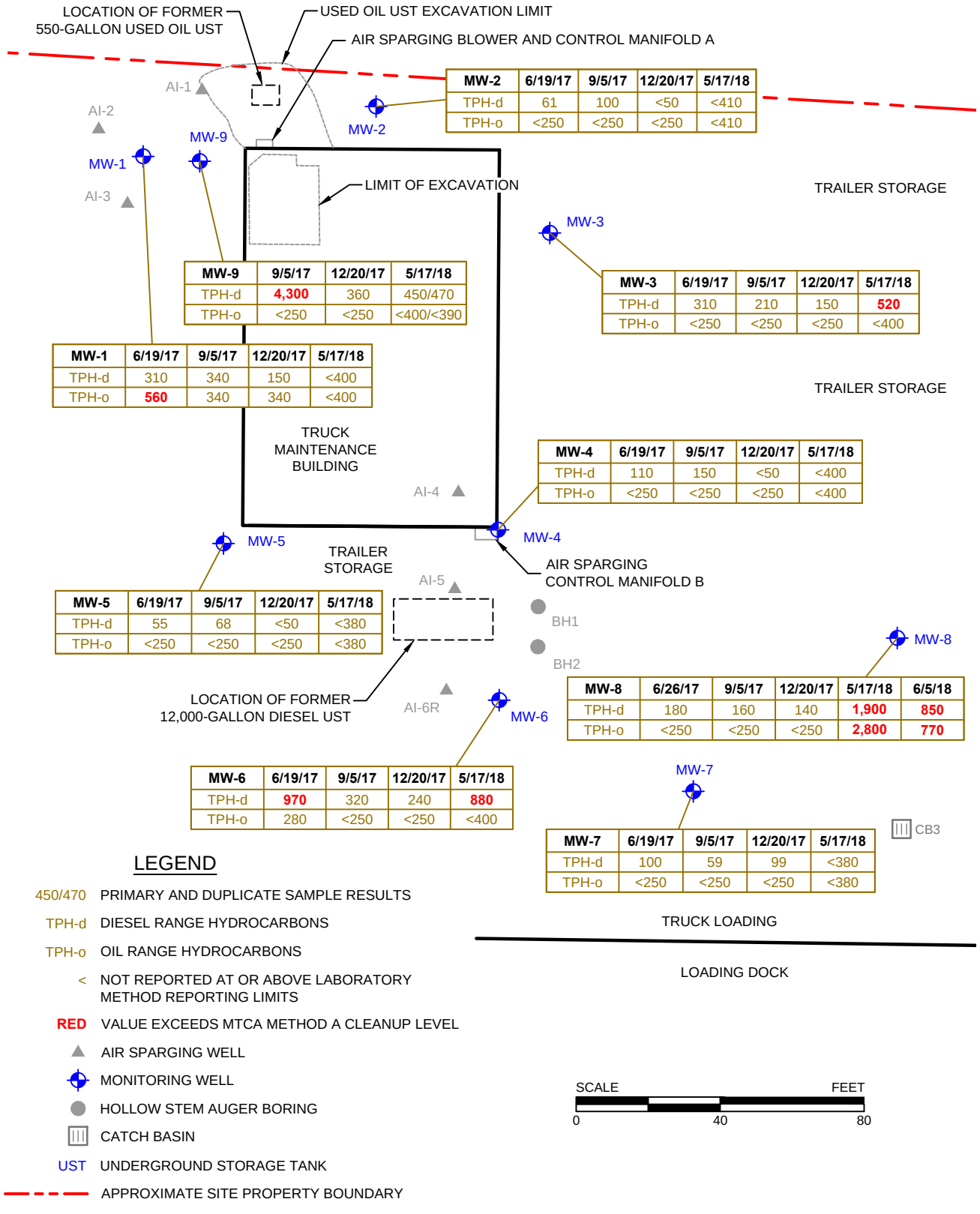
FIGURE TITLE	***GROUNDWATER CONTOUR MAY 2018***
DOCUMENT TITLE	SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT
CLIENT	ESTES EXPRESS LINES, INC.
LOCATION	FORMER PROVISIONERS EXPRESS FACILITY 2102 WEST VALLEY HIGHWAY NORTH, AUBURN, WASHINGTON

DATE	8/29/18
SCALE	AS SHOWN
DESIGNED BY	DJL
APPROVED BY	DJL
DRAWN BY	SRM
PROJECT NUMBER	2004-004.002
FIGURE NUMBER	3



MW-2	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	61	100	<50	<410
TPH-o	<250	<250	<250	<410

MW-9	9/5/17	12/20/17	5/17/18
TPH-d	**4,300**	360	450/470
TPH-o	<250	<250	<400/<390

MW-3	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	310	210	150	**520**
TPH-o	<250	<250	<250	<400

MW-1	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	310	340	150	<400
TPH-o	**560**	340	340	<400

MW-4	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	110	150	<50	<400
TPH-o	<250	<250	<250	<400

MW-5	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	55	68	<50	<380
TPH-o	<250	<250	<250	<380

MW-8	6/26/17	9/5/17	12/20/17	5/17/18	6/5/18
TPH-d	180	160	140	**1,900**	**850**
TPH-o	<250	<250	<250	**2,800**	**770**

MW-6	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	**970**	320	240	**880**
TPH-o	280	<250	<250	<400

MW-7	6/19/17	9/5/17	12/20/17	5/17/18
TPH-d	100	59	99	<380
TPH-o	<250	<250	<250	<380

LEGEND

- 450/470 — PRIMARY AND DUPLICATE SAMPLE RESULTS
- TPH-d — DIESEL RANGE HYDROCARBONS
- TPH-o — OIL RANGE HYDROCARBONS
- < — NOT REPORTED AT OR ABOVE LABORATORY METHOD REPORTING LIMITS
- **RED** — VALUE EXCEEDS MTCA METHOD A CLEANUP LEVEL
- ▲ — AIR SPARGING WELL
- ⊕ — MONITORING WELL
- ● — HOLLOW STEM AUGER BORING
- ▥ — CATCH BASIN
- UST — UNDERGROUND STORAGE TANK
- APPROXIMATE SITE PROPERTY BOUNDARY

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FIGURE TITLE: ***GROUNDWATER ANALYTICAL RESULTS***

DOCUMENT TITLE: SECOND QUARTER 2018 GROUNDWATER MONITORING REPORT

CLIENT: ESTES EXPRESS LINES, INC.

LOCATION: FORMER PROVISIONERS EXPRESS FACILITY
2102 WEST VALLEY HIGHWAY NORTH, AUBURN, WASHINGTON

DATE	8/30/18
SCALE	AS SHOWN
DESIGNED BY	DJL
APPROVED BY	DJL
DRAWN BY	SRM
PROJECT NUMBER	2004-004.002
FIGURE NUMBER	4

ATTACHMENT A
FIELD SAMPLING DATA SHEETS

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-1

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-1

DUPLICATE ID:

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	____°F	____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	0830	2	—	5.50	—

PUMP/INTAKE DEPTH (ft btoc):_____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb	DTW
0850	0.5	6.45	13.9	6.01	147	172	CLEAR	5.66
0852	0.7	6.44	13.7	5.93	139	155	CLEAR	5.75
0854	0.9	6.45	13.6	5.93	136	158	CLEAR	5.80
0856	1.1	6.47	13.5	5.90	133	153	CLEAR	

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 0900

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 14.49'. WELL DTW DROPS @ LOWEST PUMP RATE 50 ml/MIN. SLOW RECOVERY. INCREASED TO 100 ml/MIN FOR SAMPLE PURGE

NEEDS BOLTS LONGER + TAPPED MONUMENT THREADS. NEEDS LOCK. J-PLUG OK

Sampled By: Steve McCray Signature: Steve McCray

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-2

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-4

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	_____°F	_____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	08:38	2	—	5.60	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb	DTW
0950	0.5	6.17	13.1	0.52	168	102	CLEAR	5.96
0952	0.7	6.15	13.1	0.55	166	93	CLEAR	
0954	0.9	6.16	13.1	0.56	165	88	CLEAR	
0956	1.1	6.16	13.1	0.56	165	87	CLEAR	6.13

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1000

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 14.51'. PUMP RATE = 100 ml/min.

NEEDS NEW LOCK, LARGER BOLTS (TAPPED MONUMENT)

Sampled By: Steve McCray Signature: Steve McCray

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-3
SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-9
DUPLICATE ID:

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy (circled)		Rain		____?		Temperature:	65 °F	____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	11:04	2	—	5.63	—

PUMP/INTAKE DEPTH (ft btoc):

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1230	1	6.34	14.3	0.56	733	~~-60~~ -12	CLEAR
1232	1.8	6.33	14.2	0.66	708	-16	↓
1234	2.6	6.33	14.2	0.68	691	-15	↓
1236	3.2	6.34	14.2	0.70	690	-17	↓
1238	4.0	6.33	14.2	0.71	687	-18	↓

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1240

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 14.52', GOOD RECOVERY. PUMP @ 0.4 LPM NO DRAW DOWN

NEED LOCK, NEED 3 LAGER BOLTS + RETHREAD MONUMENT. J-PLUG OK

Sampled By: Steve McCray Signature: [signature]

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-4

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-8

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	65 °F	____ °C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	11:02	2	—	5.74	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1204	0.4	6.29	13.4	0.53	599	15	CLEAR
1206	0.8	6.27	13.3	0.56	589	13	w/ yellow TINT
1208	1.2	6.26	13.2	0.56	589	12	↓
1210	1.6	6.26	13.2	0.57	587	12	↓

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1215

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = ~~14.79~~ 14.90'. NO DRAW DOWN @ 0.2 LPM

NEW LOCK. NEW (2) NEW LARGER BOLTS & NEW THREADS ON MONUMENT

Sampled By: Steve McCray Signature: Steve McCray

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-5

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-5

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	_____°F	_____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	10:25	2	—	5.65	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1028	1	6.44	13.7	0.95	444	44	CLEAR
1029	1.5	6.44	13.5	0.96	438	22	CLEAR
1030	2.0	6.43	13.4	0.94	436	20	CLEAR
1031	2.5	6.43	13.4	0.95	434	18	CLEAR

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1035

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 14.60'. Pump rate 0.5 LPM no draw down.

Sampled By: Steve McCray Signature: Steve McCray

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-6

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-6

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	60 °F	_____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	1100	2	—	5.57	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1108	1	6.43	14.9	0.47	368	-17	CLEAR
1110	2	6.46	14.8	0.48	362	-18	CLEAR
1112	3	6.46	14.8	0.37	361	-18	CLEAR
1113	4	6.46	14.8	0.36	361	-17	CLEAR
1114	5	6.46	14.8	0.35	360	-17	CLEAR

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1115

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: NO DRAW DOWN @ 0.5 LPM

Sampled By: Steve McCray Signature: Steve McCray

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-7

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-7

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	60 °F	____ °C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	11:28	2	—	4.71	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1133	0.4	6.38	14.1	0.48	629	-26	CLEAR
1135	0.8	6.38	13.4	0.52	627	-28	↓
1137	1.2	6.38	13.4	0.54	625	-29	
1139	1.6	6.38	13.4	0.53		-29	

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 1140

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 13.45'. NO DRAW DOWN @ 0.2 LPM

NEROS LOCK, BOLTS & J-PLUG OK

Sampled By: Steve McCray Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-8

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-10

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		(Cloudy)		Rain		_____?		Temperature:	65 °F	____ °C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	12:48	2	—	4.66	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb	DTW
1312	0.2	6.32	16.7	0.66	611	-56	*	4.79
1314	0.3	6.32	16.8	0.64	608	-56	CLEAR	
1316	0.4	6.32	16.8	0.62	608	-57	↓	
1318	0.5	6.32	16.8	0.62	606	-57	↓	4.80

GROUNDWATER SAMPLE DATA TRYING NOT TO DRAW W/L DOWN TOWARDS SCREEN

Sample Date: 5/17/18

Sample Time: 1320

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 13.62'. ESTES PERSONNEL + ETG CLEANED OUT OILY SLUDGE FROM MONUMENT + J-PLUG. J-PLUG WAS NOT TIGHT + ALLOWED SLUDGE TO LEAK INTO WELL. SKIMMED OIL FROM SURFACE. DISCARDED TUBING. NEW TUBING WITH A PUMPING IN REVERSE UNTIL SET @ SAMPLE DEPTH. NEW LOCK, THREADS OK

Sampled By: Steve McCray Signature: _____

DTW ≈ 1-2" BELOW TOP OF SCREEN SO SOME OIL IS ON TOP OF SCREEN. PUMP @ SLOWEST RATE ≈ 50 ml/MIN, STILL GET DRAW DOWN. * OIL SPECS IN TUBING + SHEEN IN PURGE WATER

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

DUPLICATE

PROJECT NAME: ESTES WEST WELL ID: MW-9

SITE ADDRESS: AUBURN, WA LABEL CODE: EW-051718-2

DUPLICATE ID: EW-051718-3

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	____°F	____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
5/17/18	0835	2	—	5.64	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb	DTW
0920	0.5	6.02	13.3	0.67	212	81	CLEAR	5.86
0922	0.7	6.01	13.4	0.71	209	83	CLEAR	5.88
0924	0.9	6.00	13.5	0.67	209	84	CLEAR	5.89
0926	1.1	6.00	13.5	0.65	208	83	CLEAR	5.90
0928	1.3	5.99	13.5	0.67	208	83	CLEAR	5.91

GROUNDWATER SAMPLE DATA

Sample Date: 5/17/18

Sample Time: 0920 DUPLICATE TIME 0930

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: DTB = 13.00'. DRAWS DOWN @ ~~100~~ 100 ml/min BUT STABILIZED AT 5.85' bgs W/ 70 ml/min FLOW RATE. INCREASED TO 100 ml/min TO SAMPLE

YELLOW TINT, NO ODOR NOBOX LOCK, COVER & BOLTS OK

Sampled By: Steve McCray Signature: Steve McCray

ESTES TRUCKING, AUBURN, WA
2004-004.001

5/17/18

07:15 ETG ONSITE. OPEN WELLS TO EQUALIZE WATER LEVELS. AIR INJECTION PUMP WAS SHUT OFF BY ETG AT 13:30 ON 5/15/18.

WELL	DTW	WELL	DTW
MW-1	5.50	MW-6	5.57
MW-2	5.60	MW-7	4.71
MW-3	5.63	*MW-8	4.66
MW-4	5.74	MW-9	5.64
MW-5	5.65		

0830 BEGIN GW SAMPLE AFTER METER CALIBRATION. MONUMENT

*NOTE: MW-8 FULL OF THICK OIL WHICH HAS SEEPED PAST LOOSE J-PLUG (PHOTOS)

STEVE OF ESTES IS CLEANING OUT BLACK SLUDGE IN MONUMENT. LIKELY FROM ASHALT PATCH.

PURGE WATER DRUM 1/3 FULL.

1330 FINISH SAMPLING

1340 TURNED ON BLOWER. VALVE OVER BUILDING TURNED OFF

1400 ETG OFFSITE TO SHIP SAMPLES

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: ESTES WEST WELL ID: MW-2

SITE ADDRESS: AUBURN WA LABEL CODE: EW-060518-1

DUPLICATE ID: _____

Wind From	N	NE	E	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sunny		Cloudy		Rain		_____?		Temperature:	55 °F	____°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
6/5/18	1000	2	—	5.90	—

PUMP/INTAKE DEPTH (ft btoc): _____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1005	0.6	6.48	16.3	0.62	613	*	SLIGHTLY SILTY
1007	1.2	6.48	16.2	0.61	609		
1009	1.8	6.48	16.3	0.65	609		
1011	2.4	6.48	16.3	0.66	609		
1013	3.0	6.48	16.3	0.67	610		VERY SLIGHT SILT

GROUNDWATER SAMPLE DATA

Sample Date: 6/4/18

Sample Time: 1015

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	250 ml	HCl	NA	
Poly			250 ml	HNO3		
Total Bottles		2				

Notes: BEGIN SAMPLE AFTER CLEANING PVC + PURGING 25 GAL TO REMOVE OILY SUBSTANCE IN WELL. PUMP RATE 300 ml/MIN (0.3 LPM)

* ORP METER MALFUNCTION

Sampled By: Steve McCray Signature: _____

6/5/18

ESTES TRUCKING, AUBURN WA

2004-004.001 OVERCAST 50°F

CLEAN & SAMPLE MW-8, FIX OTHER MONUMENTS

0650 ETG ONSITE. INFORM MAINTENANCE ETG ONSITE & UNLOCK MW-2 LATER

0700 PREP TO CLEAN & PURGE MW-8
DTW = 5.62 | PROJ ON PROBE TIP. CLEAN.

0840 FINISHED CLEANING. DTW HAS COME UP ONCE J-PLUG WAS INITIALLY REMOVED. DTW = 4.98
PREP TO PUMP. WASH FINAL METHANOL WIPE OF INTERIOR (ABOVE WATER LINE)
BEGIN PUMPING WATER INTO DRUM
PUMP FROM WATER SURFACE & DROP W/ WATER LEVEL

0930 PURGE WELL / RECOVER & REPEAT 10+ TIMES. WATER HAS COME FROM BLACK TO LIGHT TAN BUT NOT CLEAR

0950 PUMPED ~25 GAL. WATER SLIGHTLY TAN BUT WILL NOT COMPLETELY CLEAR. NO CHANGE IN S. PURGES. FINISH PURGE
GET READY TO SAMPLE MW-8

Rite in the Rain.

ESTES WEST CONT.

6/5/18

1000 CALIBRATE METERS, BEGIN LOW-FLOW SAMPLE @ MW-8

1030 BEGIN MEASURING OTHER MW BOLT THREADS & ADD LOCKS / J-PLUGS AS NEEDED

MW-1 LOCK, 3 BOLTS (MAY NEED LARGER)
MW-2 LOCK, 3 BOLTS
MW-3 LOCK, 2 BOLTS
MW-4 LOCK, 2 BOLTS
MW-5 LOCK, 3 BOLTS, J-PLUG
MW-6 LOCK, THREADS ON MONUMENT TOO DAM
MW-7 LOCK, BOLTS OK
MW-8 LOCK, BOLTS OK
MW-9 LOCK,

1130 ETG OFFSITE TO SHIP SAMPLES

ATTACHMENT B
LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

May 22, 2018

Dan Landry
Environmental Technologies Group, Inc
1176 West 7th Avenue
Eugene, OR 97402

RE: Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Dear Dan Landry:
Enclosed are the analytical results for sample(s) received by the laboratory on May 18, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Dave Seaver, Environmental Technologies Group, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10431975001	**EW-051718-1**	Water	05/17/18 09:00	05/18/18 10:00
10431975002	**EW-051718-2**	Water	05/17/18 09:20	05/18/18 10:00
10431975003	**EW-051718-3**	Water	05/17/18 09:30	05/18/18 10:00
10431975004	**EW-051718-4**	Water	05/17/18 10:00	05/18/18 10:00
10431975005	**EW-051718-5**	Water	05/17/18 10:35	05/18/18 10:00
10431975006	**EW-051718-6**	Water	05/17/18 11:15	05/18/18 10:00
10431975007	**EW-051718-7**	Water	05/17/18 11:40	05/18/18 10:00
10431975008	**EW-051718-8**	Water	05/17/18 12:15	05/18/18 10:00
10431975009	**EW-051718-9**	Water	05/17/18 12:40	05/18/18 10:00
10431975010	**EW-051718-10**	Water	05/17/18 13:20	05/18/18 10:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10431975001	**EW-051718-1**	NWTPH-Dx	EC2	4	PASI-M
10431975002	**EW-051718-2**	NWTPH-Dx	EC2	4	PASI-M
10431975003	**EW-051718-3**	NWTPH-Dx	EC2	4	PASI-M
10431975004	**EW-051718-4**	NWTPH-Dx	EC2	4	PASI-M
10431975005	**EW-051718-5**	NWTPH-Dx	EC2	4	PASI-M
10431975006	**EW-051718-6**	NWTPH-Dx	EC2	4	PASI-M
10431975007	**EW-051718-7**	NWTPH-Dx	EC2	4	PASI-M
10431975008	**EW-051718-8**	NWTPH-Dx	EC2	4	PASI-M
10431975009	**EW-051718-9**	NWTPH-Dx	EC2	4	PASI-M
10431975010	**EW-051718-10**	NWTPH-Dx	EC2	4	PASI-M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Sample: EW-051718-1 **Lab ID: 10431975001** Collected: 05/17/18 09:00 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 12:07	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 12:07		
Surrogates								
o-Terphenyl (S)	97	%.	50-150	1	05/21/18 19:42	05/22/18 12:07	84-15-1	
n-Triacontane (S)	97	%.	50-150	1	05/21/18 19:42	05/22/18 12:07	638-68-6	

Sample: EW-051718-2 **Lab ID: 10431975002** Collected: 05/17/18 09:20 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	**0.45**	mg/L	0.40	1	05/21/18 19:42	05/22/18 09:44	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 09:44		
Surrogates								
o-Terphenyl (S)	97	%.	50-150	1	05/21/18 19:42	05/22/18 09:44	84-15-1	
n-Triacontane (S)	99	%.	50-150	1	05/21/18 19:42	05/22/18 09:44	638-68-6	

Sample: EW-051718-3 **Lab ID: 10431975003** Collected: 05/17/18 09:30 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	**0.47**	mg/L	0.39	1	05/21/18 19:42	05/22/18 10:24	68334-30-5	
Motor Oil Range	ND	mg/L	0.39	1	05/21/18 19:42	05/22/18 10:24		
Surrogates								
o-Terphenyl (S)	93	%.	50-150	1	05/21/18 19:42	05/22/18 10:24	84-15-1	
n-Triacontane (S)	97	%.	50-150	1	05/21/18 19:42	05/22/18 10:24	638-68-6	

Sample: EW-051718-4 **Lab ID: 10431975004** Collected: 05/17/18 10:00 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	ND	mg/L	0.41	1	05/21/18 19:42	05/22/18 10:35	68334-30-5	
Motor Oil Range	ND	mg/L	0.41	1	05/21/18 19:42	05/22/18 10:35		
Surrogates								
o-Terphenyl (S)	88	%.	50-150	1	05/21/18 19:42	05/22/18 10:35	84-15-1	
n-Triacontane (S)	91	%.	50-150	1	05/21/18 19:42	05/22/18 10:35	638-68-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Sample: EW-051718-5 **Lab ID: 10431975005** Collected: 05/17/18 10:35 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	ND	mg/L	0.38	1	05/21/18 19:42	05/22/18 10:47	68334-30-5	
Motor Oil Range	ND	mg/L	0.38	1	05/21/18 19:42	05/22/18 10:47		
Surrogates								
o-Terphenyl (S)	92	%.	50-150	1	05/21/18 19:42	05/22/18 10:47	84-15-1	
n-Triacontane (S)	99	%.	50-150	1	05/21/18 19:42	05/22/18 10:47	638-68-6	

Sample: EW-051718-6 **Lab ID: 10431975006** Collected: 05/17/18 11:15 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	**0.88**	mg/L	0.40	1	05/21/18 19:42	05/22/18 10:58	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 10:58		
Surrogates								
o-Terphenyl (S)	89	%.	50-150	1	05/21/18 19:42	05/22/18 10:58	84-15-1	
n-Triacontane (S)	90	%.	50-150	1	05/21/18 19:42	05/22/18 10:58	638-68-6	

Sample: EW-051718-7 **Lab ID: 10431975007** Collected: 05/17/18 11:40 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	ND	mg/L	0.38	1	05/21/18 19:42	05/22/18 11:09	68334-30-5	
Motor Oil Range	ND	mg/L	0.38	1	05/21/18 19:42	05/22/18 11:09		
Surrogates								
o-Terphenyl (S)	55	%.	50-150	1	05/21/18 19:42	05/22/18 11:09	84-15-1	
n-Triacontane (S)	54	%.	50-150	1	05/21/18 19:42	05/22/18 11:09	638-68-6	

Sample: EW-051718-8 **Lab ID: 10431975008** Collected: 05/17/18 12:15 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 11:21	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 11:21		
Surrogates								
o-Terphenyl (S)	96	%.	50-150	1	05/21/18 19:42	05/22/18 11:21	84-15-1	
n-Triacontane (S)	96	%.	50-150	1	05/21/18 19:42	05/22/18 11:21	638-68-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Sample: EW-051718-9 **Lab ID: 10431975009** Collected: 05/17/18 12:40 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	**0.52**	mg/L	0.40	1	05/21/18 19:42	05/22/18 11:32	68334-30-5	
Motor Oil Range	ND	mg/L	0.40	1	05/21/18 19:42	05/22/18 11:32		
Surrogates								
o-Terphenyl (S)	94	%.	50-150	1	05/21/18 19:42	05/22/18 11:32	84-15-1	
n-Triacontane (S)	96	%.	50-150	1	05/21/18 19:42	05/22/18 11:32	638-68-6	

Sample: EW-051718-10 **Lab ID: 10431975010** Collected: 05/17/18 13:20 Received: 05/18/18 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	**1.9**	mg/L	0.40	1	05/21/18 19:42	05/22/18 08:36	68334-30-5	
Motor Oil Range	**2.8**	mg/L	0.40	1	05/21/18 19:42	05/22/18 08:36		
Surrogates								
o-Terphenyl (S)	96	%.	50-150	1	05/21/18 19:42	05/22/18 08:36	84-15-1	
n-Triacontane (S)	94	%.	50-150	1	05/21/18 19:42	05/22/18 08:36	638-68-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

QC Batch: 539667 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10431975001, 10431975002, 10431975003, 10431975004, 10431975005, 10431975006, 10431975007, 10431975008, 10431975009, 10431975010

METHOD BLANK: 2934823 Matrix: Water
Associated Lab Samples: 10431975001, 10431975002, 10431975003, 10431975004, 10431975005, 10431975006, 10431975007, 10431975008, 10431975009, 10431975010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.40	05/22/18 08:01	
Motor Oil Range	mg/L	ND	0.40	05/22/18 08:01	
n-Triacontane (S)	%.	76	50-150	05/22/18 08:01	
o-Terphenyl (S)	%.	92	50-150	05/22/18 08:01	

LABORATORY CONTROL SAMPLE & LCSD: 2934824 2934825

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.6	1.7	79	86	50-150	8	20	
Motor Oil Range	mg/L	2	1.7	1.9	84	96	50-150	13	20	
n-Triacontane (S)	%.				78	90	50-150			
o-Terphenyl (S)	%.				82	90	50-150			

SAMPLE DUPLICATE: 2934826

Parameter	Units	10431975001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	ND	.22J		30	
Motor Oil Range	mg/L	ND	.24J		30	
n-Triacontane (S)	%.	97	99	2		
o-Terphenyl (S)	%.	97	95	2		

SAMPLE DUPLICATE: 2934827

Parameter	Units	10432019001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	4.2	4.1	2	30	
Motor Oil Range	mg/L	1.8	1.8	5	30	
n-Triacontane (S)	%.	97	94	2		
o-Terphenyl (S)	%.	110	103	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2004-004.001 Estes West Trucki
Pace Project No.: 10431975

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10431975001	**EW-051718-1**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975002	**EW-051718-2**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975003	**EW-051718-3**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975004	**EW-051718-4**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975005	**EW-051718-5**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975006	**EW-051718-6**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975007	**EW-051718-7**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975008	**EW-051718-8**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975009	**EW-051718-9**	EPA Mod. 3510C	539667	NWTPH-Dx	539816
10431975010	**EW-051718-10**	EPA Mod. 3510C	539667	NWTPH-Dx	539816

Pace Analytical

CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL

WO# : 10431975

10431975

Page: 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ETG	Report To:		Attention:	
Address:	1176 West 7th Avenue	Copy To:		Company Name:	ETG
	Eugene, OR 97402			Address:	1176 West 7th Avenue
Email:		Purchase Order #:		Pace Quote:	
Phone:	Fax:	Project Name:	Estes West Trucking Facility	Pace Project Manager:	jennifer.gross@pacelabs.com,
Requested Due Date:	10 Day Standard	Project #:	2004-004.001	Pace Profile #:	27530 / 2

Regulatory Agency: | State / Location: OR

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses Test: NWTPH-Dx (Diesel/Motor Oil)	Residual Chlorine (Y/N)	
1	EW-051718-1	WT	G			5/17/18	0900		2				X					X			001
2	-2						0920														002
3	-3						0930														003
4	-4						1000														004
5	-5						1035														005
6	-6						1115														006
7	-7						1140														007
8	-8						1215														008
9	-9						1240														009
10	-10						1320														010
11	~~TRIP~~																				
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steve McCray / ETG	5/17/18	1420	[signature]	5/18/18	16:00	3.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Steve McCray				
SIGNATURE of SAMPLER:	[signature]	DATE Signed: 5/17/18			

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 02May2018 Page 1 of 2
	Document No.: **F-MN-L-213-rev.23**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt **Client Name:** ETG **Project #:** **WO#: 10431975**

PM: JMG Due Date: 05/25/18
CLIENT: ET Group

Courier: ☒Fed Ex ☐UPS ☐USPS ☐Client ☐Commercial ☐Pace ☐SpeeDee ☐Other:

Tracking Number: 7475 9640 2435

Custody Seal on Cooler/Box Present? ☒Yes ☐No **Seals Intact?** ☒Yes ☐No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☐Bubble Wrap ☒Bubble Bags ☐None ☐Other: **Temp Blank?** ☒Yes ☐No

Thermometer Used: ☐G87A9170600254 ☒G87A9155100842 **Type of Ice:** ☒Wet ☐Blue ☐None ☐Dry ☐Melted

Cooler Temp Read (°C): 3.1 **Cooler Temp Corrected (°C):** 3.1 **Biological Tissue Frozen?** ☐Yes ☐No ☒N/A

Temp should be above freezing to 6°C **Correction Factor:** none **Date and Initials of Person Examining Contents:** lmr 5/18/18

USDA Regulated Soil (☒N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒Yes	☐No		1.
Chain of Custody Filled Out?	☒Yes	☐No		2.
Chain of Custody Relinquished?	☒Yes	☐No		3.
Sampler Name and/or Signature on COC?	☒Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time?	☒Yes	☐No		5.
Short Hold Time Analysis (<72 hr)?	☐Yes	☒No		6.
Rush Turn Around Time Requested?	☐Yes	☒No		7.
Sufficient Volume?	☒Yes	☐No		8.
Correct Containers Used?	☒Yes	☐No		9.
-Pace Containers Used?	☒Yes	☐No		
Containers Intact?	☒Yes	☐No		10.
Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☒N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? Matrix: WT	☒Yes	☐No		12.
All containers needing acid/base preservation have been checked?	☐Yes	☐No	☒N/A	13. ☐HNO_3 ☐H_2SO_4 ☐NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐Yes	☐No	☒N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒Yes	☐No	☐N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐Yes	☐No	☒N/A	14.
Trip Blank Present?	☐Yes	☐No	☒N/A	15.
Trip Blank Custody Seals Present?	☐Yes	☐No	☒N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Jenni Gross **Date:** 05/18/18

Note: Whenever there is a discrepancy affecting North Caroli hold, incorrect preservative, out of temp, incorrect containers). a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

June 11, 2018

Dan Landry
Environmental Technologies Group, Inc
1176 West 7th Avenue
Eugene, OR 97402

RE: Project: Estes West Trucking Facility
Pace Project No.: 10434250

Dear Dan Landry:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Dave Seaver, Environmental Technologies Group, Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Estes West Trucking Facility
Pace Project No.: 10434250

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

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(612)607-1700

SAMPLE SUMMARY

Project: Estes West Trucking Facility
Pace Project No.: 10434250

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10434250001	**EW-060518-1**	Water	06/05/18 10:15	06/06/18 13:15

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SAMPLE ANALYTE COUNT

Project: Estes West Trucking Facility
Pace Project No.: 10434250

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10434250001	**EW-060518-1**	NWTPH-Dx	JRH	4	PASI-M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Estes West Trucking Facility
Pace Project No.: 10434250

Sample: EW-060518-1 **Lab ID: 10434250001** Collected: 06/05/18 10:15 Received: 06/06/18 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx		Preparation Method: EPA Mod. 3510C					
Diesel Fuel Range	**0.85**	mg/L	0.40	1	06/07/18 14:04	06/10/18 12:40	68334-30-5	
Motor Oil Range	**0.77**	mg/L	0.40	1	06/07/18 14:04	06/10/18 12:40		
Surrogates								
o-Terphenyl (S)	95	%.	50-150	1	06/07/18 14:04	06/10/18 12:40	84-15-1	
n-Triacontane (S)	93	%.	50-150	1	06/07/18 14:04	06/10/18 12:40	638-68-6	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Estes West Trucking Facility
Pace Project No.: 10434250

QC Batch: 543226 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10434250001

METHOD BLANK: 2953504 Matrix: Water
Associated Lab Samples: 10434250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.40	06/10/18 12:06	
Motor Oil Range	mg/L	ND	0.40	06/10/18 12:06	
n-Triacontane (S)	%.	75	50-150	06/10/18 12:06	
o-Terphenyl (S)	%.	81	50-150	06/10/18 12:06	

LABORATORY CONTROL SAMPLE & LCSD: 2953505 2953506

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.9	1.9	96	95	50-150	1	20	
Motor Oil Range	mg/L	2	2.1	2.1	103	104	50-150	1	20	
n-Triacontane (S)	%.				91	90	50-150			
o-Terphenyl (S)	%.				95	93	50-150			

SAMPLE DUPLICATE: 2953507

Parameter	Units	10433926002 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	<0.054	ND		30	
Motor Oil Range	mg/L	0.13J	.09J		30	
n-Triacontane (S)	%.	84	54	44		
o-Terphenyl (S)	%.	92	58	46		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Estes West Trucking Facility
Pace Project No.: 10434250

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 543619

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Estes West Trucking Facility
Pace Project No.: 10434250

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10434250001	**EW-060518-1**	EPA Mod. 3510C	543226	NWTPH-Dx	543619

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CHAIN-OF-CUSTODY / Ana

The Chain-of-Custody is a LEGAL DOCUMENT. /

WO# : 10434250

10434250

1 of 1

1390749

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ETG	Report To: DAN LANDRY	Attention:
Address: 1176 W 7th AVE EUGENE, OR	Copy To: DAN SEARTH	Company Name: ETG
Email To: dlandry@etgroupinc.com	Purchase Order No.:	Address: 1176 W. 7th AVE
Phone: 541- Fax:	Project Name: ESTES WEST TRUCKING FACILITY	Pace Quote Reference:
Requested Due Date/TAT: 10 DAY STD	Project Number:	Pace Project Manager: JENNIFER GROSS
		Pace Profile #: 27530/2

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	NWTPH-Dx (Diesel)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	EW-060518-1	WT	G			6/5/18	1015		2				X								001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				Isaac Johnson - PACE	6/6/18	1315	3.5	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STEVE MCCARTY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/5/18

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Page: 1 of 1

1390749

Section A Required Client Information:

Company: ETK
Address: 1176 W 7th AVE, EUGENE, OR
Email To: dlandry@etkgroupinc.com
Phone: 541- Fax:
Requested Due Date/TAT: 10 DAY STD

Section B Required Project Information:

Report To: DAN LANDRY
Copy To: DAN SEARTH
Purchase Order No.:
Project Name: ESTES WEST TRUCKING FACILITY
Project Number:

Section C Invoice Information:

Attention:
Company Name: ETK
Address: 1176 W. 7th AVE
Pace Quote Reference:
Pace Project Manager: JENNIFER GAUSS
Pace Profile #: 27530/2

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: OR

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): NWTPH-Dx (Diesel Oil)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	FW-060518-1	WT	G			6/5/18	1015		2				X						X		
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STAVE MCCARTY
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 6/5/18

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

4

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 02May2018 Page 1 of 2
	Document No.: **F-MN-L-213-rev.23**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: ETG

Project #: WO#: 10434250

PM: JMG Due Date: 06/13/18

CLIENT: ET Group

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 5779 6332 3470

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☑ No

Thermometer Used: ☐ G87A9170600254 ☑ G87A9155100842 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Cooler Temp Read (°C): 3.5 **Cooler Temp Corrected (°C):** 3.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** True **Date and Initials of Person Examining Contents:** 6/6/18, I.J.

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No		1.
Chain of Custody Filled Out?	☑ Yes	☐ No		2.
Chain of Custody Relinquished?	☐ Yes	☑ No		3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		6.
Rush Turn Around Time Requested?	☐ Yes	☑ No		7.
Sufficient Volume?	☑ Yes	☐ No		8.
Correct Containers Used?	☑ Yes	☐ No		9.
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? Matrix: WT	☑ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☑ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Jenni Gross **Date:** 06/06/18

Note: Whenever there is a discrepancy affecting North Car , a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

ATTACHMENT C
PHOTOGRAPHS

MW-8 prior to sampling on May 17, 2018.

MW-8 prior to sampling on May 17, 2018, with j-plug removed.

MW-8 j-plug on May 17, 2018.

MW-8 prior to cleaning and resampling on June 5, 2018.

Progression of MW-8 cleaning pads on June 5, 2018.

MW-8 at completion of cleaning, prior to resampling on June 5, 2018.