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September 3, 2019 Project 2004-004.002

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

Re: Third Quarter 2019 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 third quarter 2019 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 August 21, 2019.

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, northwest quarter of Section 12, Township 21 North, Range 4 East, Willamette Meridian in King County, Washington (Figure 1). The property is listed as Tax Parcel No. 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 facility as a trucking terminal that includes a maintenance garage. There are currently no active underground storage tanks (USTs) on the facility.

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 (msl). Mill Creek and the White River Park Wetland System are

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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). 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 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 for disposal off-Site, 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 (μ g/L) and a benzene concentration of 12.0 μ g/L. The reported TPH-g concentration was less than the MTCA Method A CUL of 800 μ g/L. However, the benzene concentration exceeded the MTCA Method A CUL of 5 μ g/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 were also 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 the 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 collected 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 decommissioned by removal 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 reported in the water from the excavation, and was reportedly rinsate from the UST that was spilled as the UST was removed from the excavation due to improper rigging and hoisting. EPI prepared the *Underground Storage Tank Site Assessment Report* (EPI, 2013a), dated January 4, 2013, for submittal to Ecology's Underground Storage Tank Division.

In an opinion letter dated April 22, 2013, Ecology requested installation of two additional monitoring 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 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 DP-1 through DP-9 (Figure 2); five were located around MW-1 and four were located downgradient of MW-6. Laboratory analytical results indicated soil impacts around MW-1 were limited to location DP-3, which was 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 footings 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 advancement 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 was to monitor groundwater conditions downgradient of the former 12,000-gallon diesel UST (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 was above MTCA Method A in a groundwater sample collected from the boring (EPI, 2017b).

On May 17, 2018, 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 expansion plug. Visible material was skimmed from the well surface and the monitoring well was purged of approximately 30 gallons of groundwater prior to sampling. TPH-d and TPH-o were reported above MTCA Method A cleanup levels in the groundwater sample collected on May 17, 2018.

On June 5, 2018, ETG cleaned the casing for monitoring well MW-8, using clean absorbent pads to wipe the well casing. Following cleaning, the well was developed by extracting water with a development pump 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. The well was resampled following cleaning and development. Though significant reduction in TPH-d and TPH-o concentrations were reported, laboratory analytical results still reported TPH-d and TPH-o above MTCA Method A cleanup levels in the groundwater sample.

On September 17, 2018, ETG submitted *Groundwater Assessment Work Plan* (ETG, 2018) proposing the construction of a new groundwater monitoring well downgradient of MW-8. Ecology approved the groundwater monitoring well location in an Opinion Letter dated December 20, 2018 (Ecology, 2018).

On January 25, 2019, consistent with the Ecology approved Groundwater Assessment Work Plan (ETG, 2018), groundwater monitoring well MW-10 was constructed

downgradient of MW-8 and surveyed. The monitoring well was developed and sampled during the first quarter groundwater monitoring event in February 2019. Laboratory analytical results indicated TPH-g, TPH-d, TPH-o, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), carcinogenic polynuclear aromatic hydrocarbons (cPAHs) including naphthalene, 1-methyl naphthalene and 2-methyl naphthalene, and total lead were not reported in the groundwater sample collected from the well.

Remedial System

In 2014, 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 (AI) wells at locations upgradient of MW-1 (Figure 2) 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 at a higher rate.

Each of the shallow AI well was equipped with a 1-foot section of Kerfoot Technologies C-Sparger® screen set in a sand filter pack and set below 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 with 8-inch diameter flush-mount 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 to 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 grade.

The remediation system was started and tested on May 15, 2014 after quarterly groundwater monitoring was completed. An electrical issue with the compressor's 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 AI wells at locations upgradient of MW-6 (Figure 2). The three wells are constructed like the air injection wells at MW-1, equipped with 1-foot lengths of Kerfoot Technologies C-Sparger® screen set in a sand filter pack and set below 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 until June 2015 when a new electrical issue with the compressor's 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 monitoring event, and inspection revealed that the compressor motor was damaged due to overheating. EPI was informed that the system had been off for several weeks prior to the monitoring event.

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 at 208 volts, voltage fluctuations below 208 volts caused high amperage on the motor, resulting in excessive heat that eventually burned-out 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. Compressor operation was started on November 16, 2016. The system was operational before, and after the December 20, 2016 groundwater monitoring 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 AI-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 AI-6 per Ecology requirements and replaced it with air injection well AI-6R.

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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 and noted that the air compressor was not running. The compressor was replaced, and the air injection system re-started (EPI, 2018).

The air injection system continued to operate after repair in January 2018, with the exception of maintenance events and prior to groundwater monitoring events. Based on the November 2018 monitoring results, air injection system operation was suspended on December 6, 2018 and has remained inactive since that date.

GROUNDWATER MONITORING

On August 21, 2019, ETG conducted a groundwater monitoring event which included collection of depth-to-water measurements from monitoring wells MW-1 through MW-10. As requested by Ecology, groundwater samples were collected from monitoring wells MW-3, MW-9, and MW-10. Depth-to-water measurements and groundwater elevation data are provided in Table 1.

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 as 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), a State of Washington certified laboratory (No. C486), 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-3.

All purge water and decontamination water was stored on-Site in an United States Department of Transportation (USDOT) approved 55-gallon drum pending proper off-Site disposal.

Groundwater Elevation and Flow Direction

Based on the depth-to-water measurements collected on August 21, 2019 from the ten (10) monitoring wells, a groundwater elevation contour map was generated for the Site (Figure 3) using field measurements and data from well surveys completed on November, 2017 (MW-1 through MW-9) and February 5, 2019 (MW-10). Groundwater elevation data indicated a predominantly northeasterly groundwater flow direction, consistent with the direction observed in previous groundwater monitoring events. The horizontal groundwater gradient was calculated to be 0.01 feet per foot (ft/ft) during the August 21, 2019 groundwater monitoring event.

Groundwater Analytical Results

A summary of laboratory analytical results for groundwater samples collected on August 21, 2019 from monitoring wells MW-3, MW-9, and MW-10 are provided in Table 2 along with Ecology MTCA Method A CULs for comparison. TPH-d and TPH-o analytical results are also presented on Figure 4. A copy of the laboratory analytical report is provided as Attachment B.

Analytical results for groundwater samples collected on August 21, 2019 from monitoring wells MW-3, MW-9, and MW-10 indicated the following:

Diesel Range Hydrocarbons

TPH-d was reported above the Ecology MTCA Method A CUL of 500 µg/L at a concentration of 630 µg/L in the groundwater sample collected from monitoring well MW-9. TPH-d was not reported at, or above, the laboratory method reporting limit (MRL) in the groundwater samples collected from monitoring wells MW-3 and MW-10. All laboratory MRLs were below the Ecology MTCA Method A CUL.

Oil Range Hydrocarbons

• TPH-o was not reported at, or above, the laboratory MRL in the groundwater samples collected from monitoring wells MW-3, MW-9, and MW-10. All laboratory MRLs were below the Ecology MTCA Method A CUL.

Total Diesel and Oil Range Hydrocarbons

• Total TPH-d and TPH-o was reported above the Ecology MTCA Method A CUL of $500 \mu g/L$ at a concentration of $630 \mu g/L$ in the groundwater sample collected from monitoring well MW-9. Total TPH-d and TPH-o was not reported at, or above, laboratory MRLs in the groundwater samples collected from monitoring wells MW-3 and MW-10.

GROUNDWATER ANALYSIS TREND CHARTS

As requested in Ecology's Opinion Letter dated December 20, 2018 (Ecology, 2018), groundwater analysis trend charts have been prepared for monitoring wells MW-1, MW-3, MW-6, MW-8, and MW-9. Copies of the groundwater analysis trend charts are provided as Attachment C. The trend charts indicate the following:

- Laboratory analyses for samples collected from MW-1 indicate an overall declining trend, and consistently lower TPH-d and TPH-o concentrations since November 2012. Groundwater quality data for TPH-d and TPH-o were compliant with Ecology MTCA Method A for the last four quarters that samples were collected (December 2018 thru November 2018).
- Laboratory analyses for samples collected from MW-3 indicate an overall declining trend and consistent TPH-d concentrations below Ecology MTCA Method A CULs since sampled in August 2011, with the lone exception of the sample collected in May 2018. TPH-o has never been reported in groundwater samples collected from MW-3. Groundwater quality data for TPH-d were compliant with Ecology MTCA Method A for the last four consecutive quarters (November 2018 thru August 2019).
- Laboratory analyses for samples collected from MW-6 indicate an overall declining trend, and consistently lower TPH-d and TPH-o concentrations since August 2014. Groundwater quality data for TPH-d and TPH-o were compliant with Ecology MTCA Method A for the last four consecutive quarters that samples were collected (August 2018 thru May 2019).
- Laboratory analyses for samples collected from MW-8 indicate TPH-d and TPH-o concentrations have consistently declined since cleaning the well of spilled material in June 2018. Groundwater quality data for TPH-d and TPH-o were compliant with Ecology MTCA Method A for the last four consecutive quarters that samples were collected (August 2018 thru May 2019).
- Laboratory analyses for samples collected from MW-9 indicate an overall declining trend since well installation in September 2017. TPH-o has never been reported in groundwater samples collected from MW-9. Groundwater quality data for TPH-d were compliant with Ecology MTCA Method A for two of the last four quarters.

REMEDIAL SYSTEM OPERATION

Based on the November 2018 monitoring results, air injection system operation was suspended on December 6, 2018. The air injection system has not operated since that time.

SCHEDULED ACTIONS

Groundwater monitoring will be completed during fourth quarter 2019. Depth-to-water measurements will be collected from monitoring wells MW-1 through MW-10. A groundwater sample will be collected from monitoring well MW-10 and analyzed for TPH-d and TPH-o during fourth quarter 2019.

Laboratory analytical results for groundwater samples collected from MW-3 continue to indicate a decreasing trend. The third quarter 2019 monitoring event represented the fourth consecutive quarter of compliance with Ecology MTCA Method A CULs. Therefore, consistent with Ecology's Opinion Letter dated December 20, 2018 (Ecology, 2018), MW-3 will not be sampled in fourth quarter 2019.

As presented in ETG's March 28, 2019 *Response to Ecology Opinion Letter* (ETG, 2019), continued groundwater sample collection from MW-9 is not warranted. The groundwater contamination near MW-9 is a result of a historical release from the used oil drain system located in the truck maintenance building and has been present since before the conditional closure in 2000. As previously discussed, the trend chart for MW-9 indicates an overall declining trend. Collection of groundwater quality data beyond third quarter 2019 is not warranted for completion of a conditional closure with an Environmental Covenant. Sufficient data has been collected to understand the magnitude and nature of the contaminants in groundwater near MW-9.

If there are any questions regarding this report please call.

Sincerely,

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Environmental Technologies Group, Inc.

Daniel J. Landry

Senior Project Manager

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

David M. Seaver, L.G. Senior Geologist



REFERENCES

- Ecology. 2018. Opinion Letter Further Action at the Following Site: Site Name: Provisioner's Express Inc., Site Address: 2102 West Valley Highway North, Auburn, Washington, 98001, Facility/Site No.: 91612121, VCP Project No.: 3206, Cleanup Site ID: 6847. State of Washington Department of Ecology. December 20.
- 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.
- ETG. 2018. Groundwater Assessment Work Plan, 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. Environmental Technologies Group, Inc. September 17.
- ETG. 2019. Response to Ecology Opinion Letter, 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. Environmental Technologies Group, Inc. March 28.

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

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.

Well Number/ TOC Elevation Date of Measurement Dissolved Oxygen (mg/L) DTW (feet) SWL (feet) 0 MW-1 100.51 12/23/98 5.32 95.19 95.50 01/05/99 5.01 95.50 95.56 01/20/99 5.01 95.50 60.77 08/12/11 6.12 54.65	Change in SWL (feet) 0.31 0.06 -0.06 0.50
IOC Elevation Measurement (mg/L) (feet) (feet) MW-1 12/23/98 5.32 95.19 01/05/99 5.01 95.50 01/20/99 4.95 95.56 02/02/99 5.01 95.50 60.77 08/12/11 6.12 54.65	0.31 0.06 -0.06
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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 06/16/17 0.93 4.25 56.52	1.59 -0.92
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12/20/17 11.2 4.45 56.32	1.72
05/17/18 5.90 5.50 55.27	-1.05
08/23/18 3.37 6.54 54.23	-1.04
11/15/18 7.77 5.40 55.37	1.14
02/19/19 3.88 56.89	1.52
05/21/19 5.19 55.58	-1.31
08/21/19 5.64 55.13	-0.45
MW-2	
100.56 12/23/98 6.89 93.67	
01/05/99 5.09 95.47	1.80
01/20/99 4.48 96.08	0.61
02/02/99 5.09 95.47	-0.61
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
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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	-1.32
09/28/15 0.84 6.50 54.35	-0.14
03/03/16 1.34 2.64 58.21	3.86

Table 1Groundwater Elevation Summary

Former Provisioners Express 1220 West Valley Highway North Auburn, Washington

Wall Name ou/	Date of	Dissolved	DTW	SWL	Change in SWI
Well Number/ TOC Elevation	Measurement	Oxygen	(feet)	SWL (feet)	Change in SWL (feet)
		(mg/L)			
MW-2	06/21/16	0.74	5.95	54.90	-3.31
Continued	09/16/16	0.15 0.87	6.13	54.72	-0.18 1.42
	12/20/16		4.71 3.09	56.14 57.76	1.42
	03/24/17 06/16/17	0.51	3.09 4.75	57.76 56.10	-1.66
	09/05/17	0.51	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
	08/23/18		6.68	54.17	-1.08
	11/15/18		5.44	55.41	1.24
	02/19/19		4.12	56.73	1.32
	05/21/19		5.30	55.55	-1.18
	08/21/19		5.81	55.04	-0.51
MW-3					
100.56	12/23/98		5.44	95.12	
	01/05/99		5.11	95.45	0.33
	01/20/99		4.57	95.99	0.54
	02/02/99		5.11	95.45	-0.54
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
	05/16/13		5.56	55.24	-0.18
	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 08/14/14	0.77 0.29	5.03 6.28	55.77 54.52	-0.69 -1.25
	11/24/14	0.29	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
	08/23/18		6.63	54.17	-1.00
	11/15/18	1.91	5.48	55.32	1.15
	02/19/19	0.34	4.77	56.03	0.71
	05/21/19	0.36	5.31	55.49	-0.54
	08/21/19	0.21	5.75	55.05	-0.44
MW-4	00/00/00			0.5.50	
100.61	02/02/99		5.11	95.50	
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 11/15/12		6.50 5.36	54.43	-0.87 1.14
	02/14/13		5.36 5.50	55.57 55.43	-0.14
	02/14/13	1	5.50	55.45	-0.14

Table 1Groundwater Elevation Summary

Former Provisioners Express 1220 West Valley Highway North Auburn, Washington

	_	Dissolved			
Well Number/	Date of	Oxygen	DTW	SWL	Change in SWL
TOC Elevation	Measurement	(mg/L)	(feet)	(feet)	(feet)
MW-4	05/16/13		5.67	55.26	-0.17
Continued	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
	08/23/18		6.73	54.20	-0.99
	11/15/18		5.55	55.38	1.18
	02/19/19		4.90	56.03	0.65
	05/21/19		5.41	55.52	-0.51
	08/21/19		5.83	55.10	-0.42
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
	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
	08/23/18		6.58	54.32	-0.93
	11/15/18		5.44	55.46	1.14
	02/19/19		4.80	56.10	0.64
	05/21/19		5.31	55.59	-0.51
	08/21/19		5.73	55.17	-0.42
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

Table 1Groundwater Elevation Summary

Former Provisioners Express 1220 West Valley Highway North Auburn, Washington

Well Number/ TOC Elevation MW-6 Continued	Date of Measurement 06/29/15 09/28/15	Dissolved Oxygen (mg/L)	DTW (feet)	SWL (feet)	Change in SWL
MW-6	06/29/15	(mg/L)	(feet)	(feet)	(f. 1)
				(1000)	(feet)
		0.17	6.27	54.49	-1.17
		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
	08/23/18	0.48	6.51	54.25	-0.94
	11/15/18	1.22	5.39	55.37	1.12
	02/19/19	0.39	4.69	56.07	0.70
	05/21/19	0.39	5.22	55.54	-0.53
	08/21/19		5.63	55.13	-0.33
	00/21/19		5.05	55.15	-0.+1
MW-7 59.87	09/16/16	0.57	5.15	54.72	
59.87		0.57			
	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 09/05/17	0.31 0.21	4.33 5.43	55.54 54.44	-0.65 -1.10
	12/20/17	0.21	3.43	55.92	-1.10 1.48
	05/17/18	0.94 0.53	3.93 4.71	55.16	-0.76
	08/23/18		4.71 5.67	54.20	-0.76
	11/15/18		4.49	55.38	-0.90
	02/19/19		3.85	56.02	0.64
	05/21/19		4.36	55.51	-0.51
	08/21/19		4.76	55.11	-0.40
MUV 0	00,21,19		, 0		
MW-8 59.70	09/16/16	0.52	5.09	54.61	
39.70	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	0.28	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
	08/23/18	0.93	5.56	54.14	0.34
	11/15/18	2.03	4.44	55.26	1.12
	02/19/19	0.41	3.73	55.97	0.71
	05/21/19	0.39	4.20	55.50	-0.47
	08/21/19		4.62	55.08	-0.42
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
	08/23/18	1.03	6.69	54.22	-1.05
	11/15/18	0.84	5.50	55.41	1.19
	02/19/19	0.48	4.70	56.21	0.80
	05/21/19	0.29	5.33	55.58	-0.63
	08/21/19	0.29	5.80	55.11	-0.47

Table 1Groundwater Elevation Summary

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-10												
59.80	02/19/19	0.69	4.09	55.71								
	05/21/19	0.30	4.36	55.44								
	08/21/19	0.47	4.75	55.05								
Notes:												
TOC - Top of casing		SWL - Static	water level									
mg/L - Milligrams per lit	er	NC - Not colle	ected									
DTW - Depth to water												
Not applicable/Not m	neasured											
Wells MW-1 thru MW-4	Wells MW-1 thru MW-4 surveyed to an arbitary datum of 100 feet in 1998.											
Wells MW-1 through MW-9 surveyed to the North American Vertical Datum of 1988 (NAVD 88)												
Ũ	wells MW-1 through MW-9 surveyed to the North American Vertical Datum of 1988 (NAVD 88) on September 19, 2017 and MW-10 on February 5, 2019.											
on September 19, 2017 a		y 5, 2019.										

Table 2Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)		cology Metho NWTPH-Dx (µg/L)			SEPA Met	ganic Compoun thod 8021B/826 (µg/L)	
Well ID	Sample ID	Collection Date	TPH-g	TPH-d	TPH-0	Total TPH (C ₁₂ - C ₃₆₎	Benzene		Ethylbenzene	Total Xylenes
MW-1	MW-1	12/23/1998		<250	<500	<500				
	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				
	EW-082318-3	8/23/2018		<380	<380	<380				
	EW-111518-6	11/15/2018		<400	<400	<400				
	NS	2/19/2019								
	NS	5/21/2019								
	NS	8/21/2019								
MW-2	MW-2	12/23/1998		250	<500	<500				
	MW-2	1/29/1999	230				8.3	1.2	<1.0	4.0
	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				

Table 2Summary of Groundwater Analytical Results

Well D Sample ID Collection (NW-2) TPH-g TPH-g TPH-d (S) Coll Fold (TP) (S)				Ecology Method NWTPH-Gx (µg/L)		cology Metho NWTPH-Dx (µg/L)			SEPA Me	ganic Compoun thod 8021B/826 (µg/L)	
Continued NA 61202017 640 -250 61	Well ID	Sample ID			TPH-d			Benzene			Total Xylenes
NA 9/52017 100 -250 100	MW-2	NA	9/16/2016		95	<250					
NA 92/2017 MW-3 12/2019 <t< td=""><td>Continued</td><td>NA</td><td></td><td></td><td><50</td><td><250</td><td><250</td><td></td><td></td><td></td><td></td></t<>	Continued	NA			<50	<250	<250				
NA 12/20/2017 -50 -250		NA	6/19/2017		61	<250	61				
EW-051784 5172018 -410 -410		NA	9/5/2017		100	<250	100				
NS NS<		NA	12/20/2017		<50	<250	<250				
NS11/15/2018NA81/2011		EW-051718-4	5/17/2018		<410	<410	<410				
N8 2/19/2019 <		NS	8/23/2018								
NS \$212019 NA 11/12/11 <100		NS	11/15/2018								
N88/21/2019NA1/1/1/2012-100000-250130-210<		NS	2/19/2019								
MW-3 MW-3 12/23/1998 <250 <500 <- I <td></td> <td>NS</td> <td>5/21/2019</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		NS	5/21/2019								
NA8/12/2011<100<230<500<500<1<1<1<1<1NA11/11/2011<100		NS	8/21/2019								
NA 8/12/2011 <100 <250 <500 <10 <1 <1 <1 NA 11/1/2011 <100	MW-3	MW-3	12/23/1998		<250	<500	<500				
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NA9/16/2016100 < 250 100NA12/20/201699 < 250 99NA6/19/2017310 < 250 310NA9/5/2017210 < 250 210NA9/5/2017150 < 250 150NA12/20/2017520 < 400 520NS $8/23/2018$ EW-0191942/19/2019 < 390 < 390 < 390 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>											
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			8/23/2018								
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$			11/15/2018			<390	<390				
Image: here of the text of te		EW-021919-4	2/19/2019		<400	<400	<400				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	duplicate	EW-021919-5	2/19/2019		<400	<400	<400				
EW-082119-3 $8/21/2019$ <410 <410 <410 $$ <t< td=""><td></td><td>EW-052119-3</td><td>5/21/2019</td><td> </td><td></td><td><410</td><td></td><td></td><td></td><td></td><td></td></t<>		EW-052119-3	5/21/2019			<410					
duplicate EW-082119-4 8/21/2019 <390 <390 <390 </td <td>duplicate</td> <td>EW-052119-4</td> <td>5/21/2019</td> <td> </td> <td></td> <td><400</td> <td><400</td> <td></td> <td></td> <td></td> <td></td>	duplicate	EW-052119-4	5/21/2019			<400	<400				
MW-4 MW-4 1/29/1999 <100 <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <- <-		EW-082119-3	8/21/2019		<410	<410	<410				
NA 8/12/2011 <100 <250 <500 <1 <1 <1 <3 NA 11/11/2011 <100	duplicate	EW-082119-4	8/21/2019		<390	<390	<390				
NA 8/12/2011 <100 <250 <500 <1 <1 <1 <3 NA 11/11/2011 <100	MW-4	MW-4	1/29/1999	<100				<1.0	<1.0	<1.0	<1.0
NA 11/11/2011 <100 72 <250 72 <1 <1 <1 <3 NA 2/10/2012 <100	T. 11 T.				<250	<500	<500				
NA 2/10/2012 <100 150 <250 150 <1 <1 <1 <3 NA 5/17/2012 <100											
NA 5/17/2012 <100 160 <250 160 <1 <1 <3 NA 8/28/2012 <100											
NA 8/28/2012 <100 200 <250 200 <1 <1 <3 NA 11/15/2012 <100											
NA 11/15/2012 <100 220 <250 220 <1 <1 <1 <3											
I NA I 2/14/2012 I <100 I 220 I 220 I 220 I 21 I 21 I 21 I 2		NA NA	2/14/2013	<100 <100	220	<250 <250	220	<1 <1	<1 <1	<1	<3 <3

Table 2Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)		cology Metho NWTPH-Dx (µg/L)			SEPA Me	ganic Compoun thod 8021B/826 (µg/L)	
Well ID	Sample ID	Collection Date	TPH-g	TPH-d	TPH-0	Total TPH (C ₁₂ - C ₃₆₎	Benzene		Ethylbenzene	Total Xylenes
MW-4	NA	5/16/2013	<100	210	<250	210	<1	<1	<1	<3
Continued	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				
	NS	8/23/2018								
	NS	11/15/2018								
	NS	2/19/2019								
	NS	5/21/2019								
	NS	8/21/2019								
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				
	NA	1/2/2018		<50	<250	<250				
	EW-051718-5	5/17/2018		<380	<380	<380				
	NS	8/23/2018								
	NS	11/15/2018								
	NS	2/19/2019								
	NS	5/21/2019								
	NS	8/21/2019								
MW-6	NA	6/5/2013	<100	680	<250	680	<1	<1	<1	<3
111 11 -0	NA	8/14/2013	<100	790	<250	790	<1	<1	<1	<3
	NA	2/20/2014	~100	740	<250	730				
	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		750 750	<250	750				
	NA NA	9/28/2015 9/28/2015			<230 <250					
				610 1 100		610				
	NA NA	3/3/2016		1,100	390	1,490				
	NA	6/21/2016		650	<250	650				

Table 2Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)		cology Metho NWTPH-Dx (µg/L)			SEPA Met	ganic Compoun thod 8021B/826 (µg/L)	
Well ID	Sample ID	Collection	TPH-g	TPH-d	(µg/L) TPH-o	Total TPH	Benzene	Toluene	Ethylbenzene	Total
wen ib	Sample ID	Date	II II-g	III-u	1111-0	$(C_{12} - C_{36})$	Delizene	Toruche	Ethylbenzene	Xylenes
MW-6	NA	9/16/2016		340	<250	340				
Continued	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				
	EW-082318-4	8/23/2018		<400	<400	<400				
	EW-082318-3	11/15/2018		<380	<380	<380				
	EW-021919-2	2/19/2019		470	<400	470				
	EW-052119-2	5/21/2019		<390	<390	<390				
	NS	8/21/2019								
MW-7	NA	9/16/2016		140	<250	140				
101 00 - /	NA	12/20/2016		78	<250 <250	78				
	NA	3/24/2017		<50	<230 <250	<250				
	NA	6/19/2017		100	<230 <250	100				
	NA	9/5/2017		59	<230 <250	59				
	NA	9/3/2017 12/20/2017		99	<230 <250	99				
	INA EW-051718-7				<230 <380	<380				
		5/17/2018		<380						
	NS	8/23/2018								
	NS	11/15/2018								
	NS NS	2/19/2019 5/21/2019								
	NS NS	8/21/2019 8/21/2019								
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				
	EW-082318-5	8/23/2018	<100	450	<380	450	<1.0	<1.0	<1.0	<3.0
	EW-111518-2	11/15/2018		<400	<400	<400				
	EW-021919-3	2/19/2019		<400	<400	<400				
	EW-052119-5	5/21/2019		<400	<400	<400				
	NS	8/21/2019								
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-051718-2 EW-051718-3	5/17/2018		470	<390	470				
unpileate	EW-082318-1	8/23/2018		790	<400	790				
duplicate	EW-082318-1 EW-082318-2	8/23/2018		700	<400 <400	700				
unpricate	EW-082518-2 EW-111518-4	11/15/2018		<390	<400 <390	<390				
duplicate	EW-111518-4 EW-111518-5	11/15/2018		<390 <400	<390 <400	<390 <400				
uupiicate	EW-111318-3 EW-021919-1	2/19/2019	<100	<400 <400	<400 <400	<400 <400	<1.0	<1.0	<1.0	<3.0
										~3.0
	EW-052119-1	5/21/2019		510	<410 <200	510				
	EW-082119-1	8/21/2019		630	<390	630				

Table 2 Summary of Groundwater Analytical Results

			Ecology Method NWTPH-Gx (µg/L)	WTPH-Gx NWTPH-Dx			Volatile Organic Compounds USEPA Method 8021B/8260B (µg/L)			
Well ID	Sample ID	Collection Date	TPH-g	TPH-d	ТРН-о	Total TPH (C ₁₂ - C ₃₆₎	Benzene			
MW-10	EW-021919-6	2/19/2019	<100	<400	<400	<400	<1.0	<1.0	<1.0	<3.0
	EW-052119-6	5/21/2019		<390 <390 <390		<390				
	EW-082119-2	8/21/2019		<400 <400 <400		<400				
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

CCL - Contaminant Cleanup Level

USEPA - United States Environmental Protection Agency

 $\mu g/L$ - micrograms per liter

--- Not Analyzed

< - Not reported at, or above the indicated laboratory method reporting limit

NS - Not Sampled

NA - Not Applicable

Shaded value indicates compound was reported either at, or above the laboratory MRL

TPH-g - gasoline range total petroleum hydrocarbons TPH-o - total petroleum hydrocarbons in the oil range

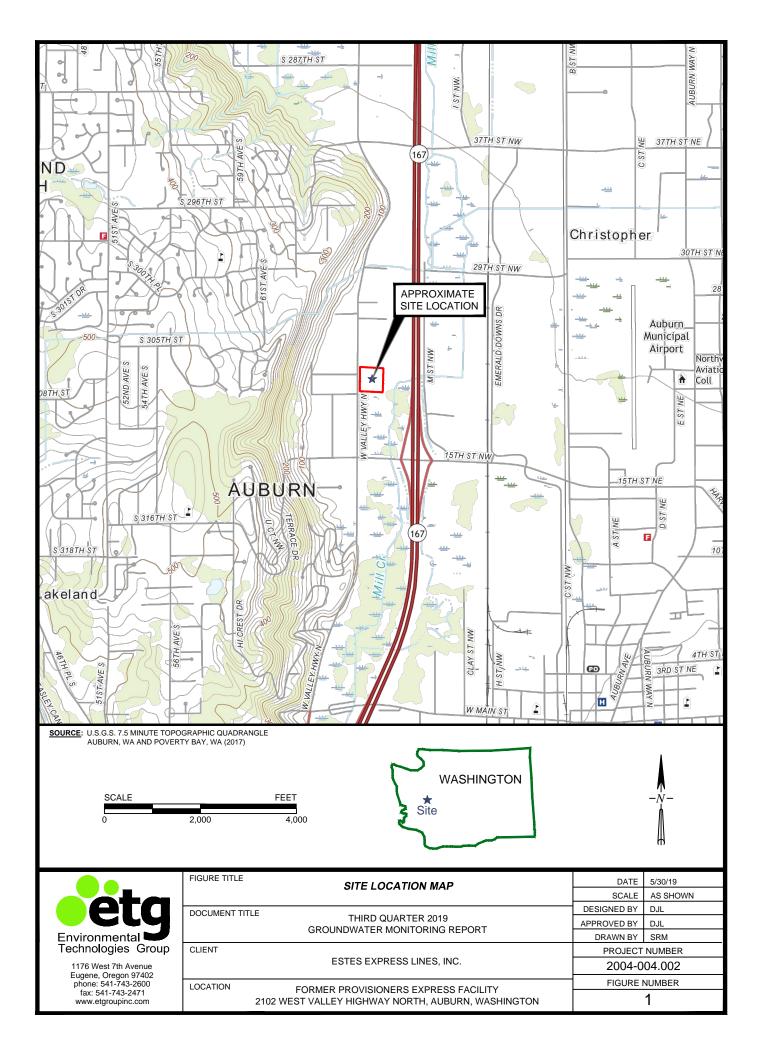
Bold - Value exceeds MTCA Method A cleanup level

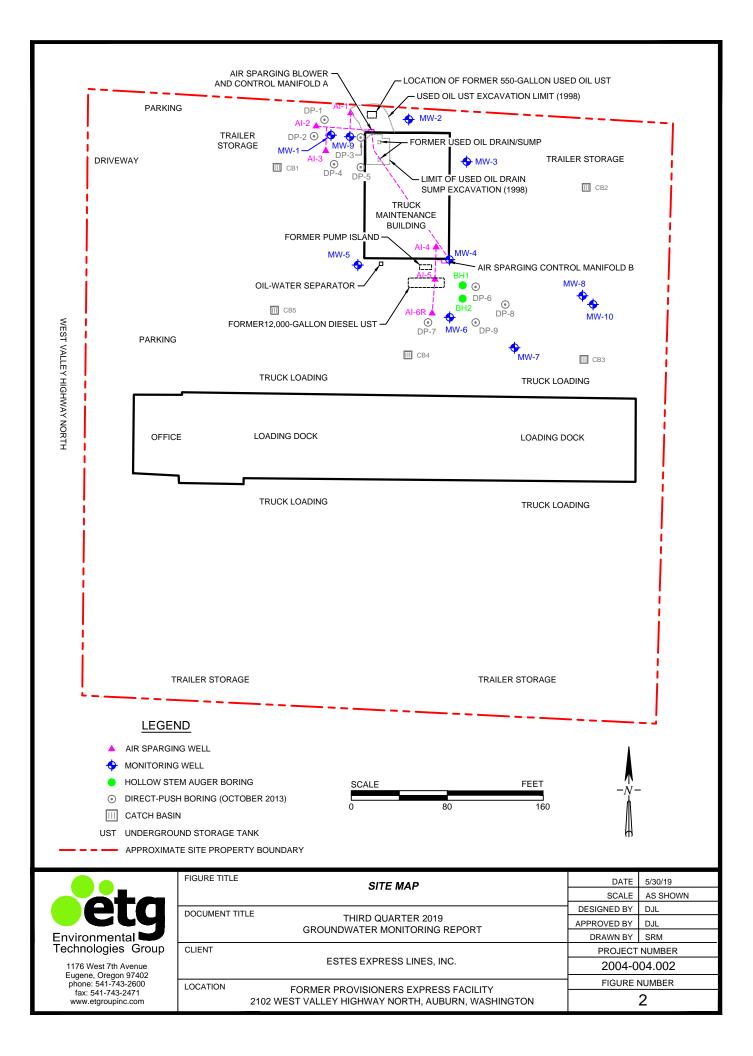
TPH-d - diesel range total petroleum hydrocarbons

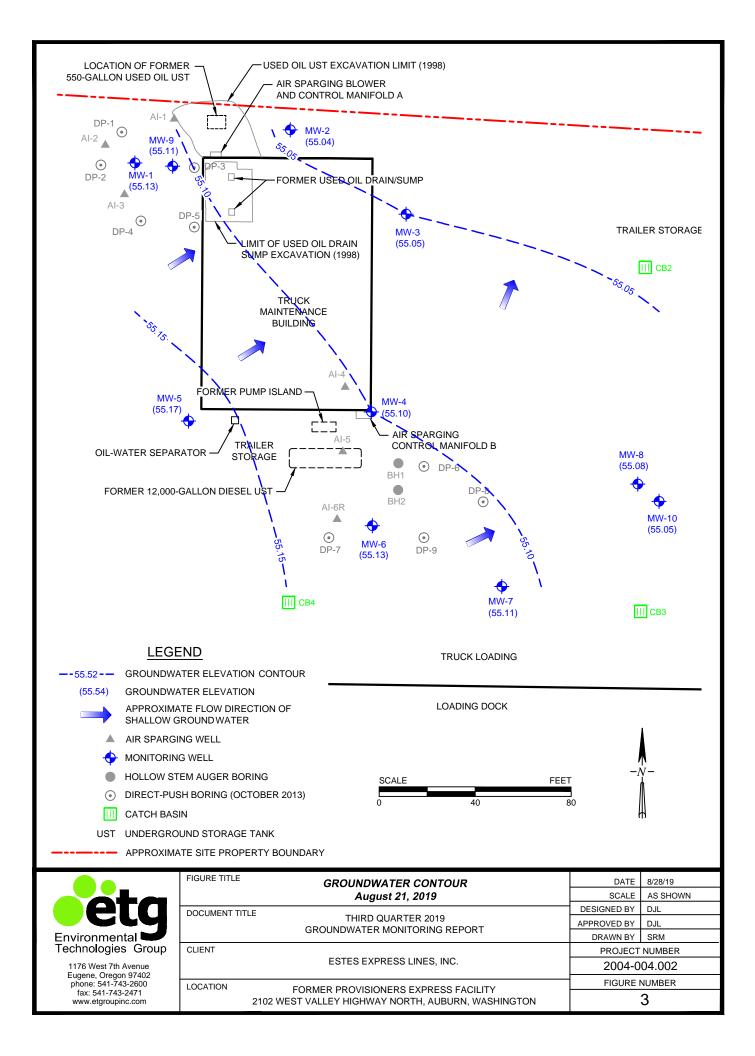
^a MTCA Method A Groundwater Cleanup Levels for Unrestricted Land Uses are referenced from the February 12, 2001.

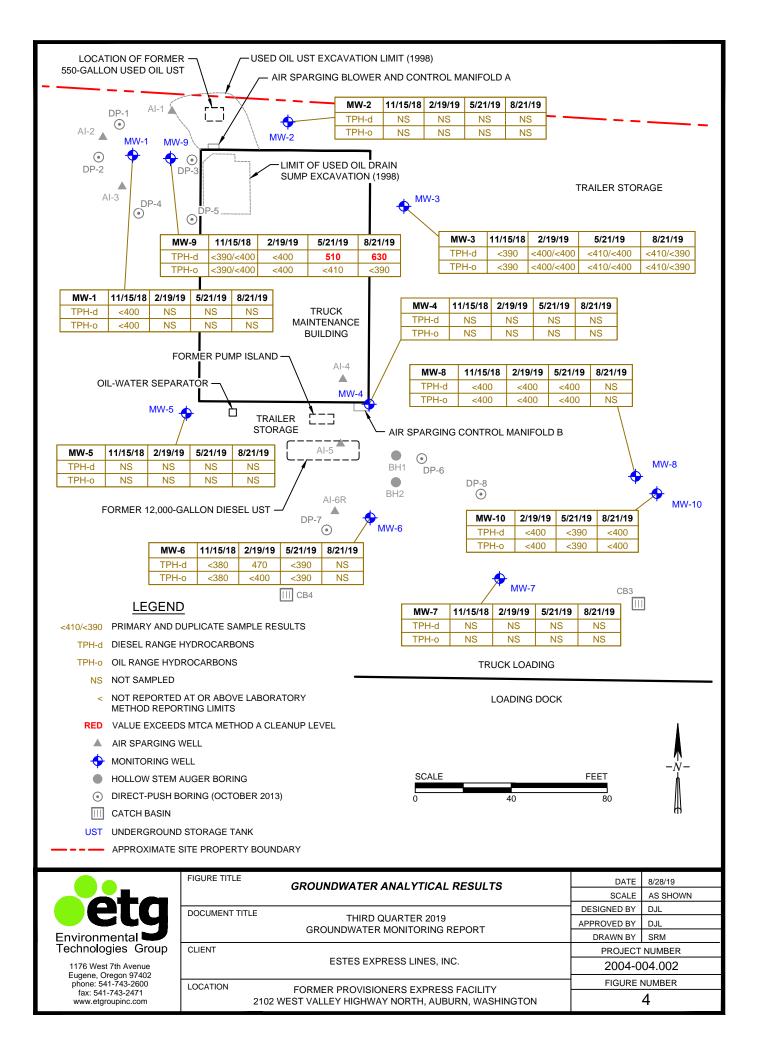
Washington Department of Ecology Model Toxics Control Act Cleanup Regulation Chapter 173-340, Table 720-1.

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









ATTACHMENT A FIELD SAMPLING DATA SHEETS

FIELD SAMPLING DATA SHEET LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: <u>ESTES West</u> WELL ID: <u>MW-9</u>

SITE ADDRESS: Auburn, WA LABEL CODE: EW-08 21 19- / DUPLICATE ID:

Wind From	N	NE	Е	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sun	ny	Clo	udy	R	ain		?	Temperature:	°F	°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
8/21/19		2			_

PUMP/INTAKE DEPTH (ft btoc):

WATER QUALITY DATA

Time	Liters	PH	Тетр	DO	Spec. Cond.	Redox	Turbidity
1200	0,5	6.31	21.4	0.28	444	-31.7	CURAN #
1202	0.7	6-30	21.3	0.27	440	-31.5.	11 17
1204	0.9	6.31	21.2	0.27	439	-31.4	
1206	1.1	6.31	21.2	0.29	437	-31.4	i (🔍
					-		

GROUNDWATER SAMPLE DATA

Sample Date: $\frac{8}{2^{\prime}}$ 19

Sample Time:___/2/0

Bottle Type		Amou	unt & Volume	Preservative	Filter	
VOA Glass			40 ml	HCl	No	
Amber Glass	\checkmark	2	250 ml	HCl	No	
Poly			250 ml			

Total Bottles

Notes:_	Punp	RATE	2	0.1	LPM	T	HELD	AT	5.65	ft	
★	YRUOW	TinT						-			

Sampled By: Steve McCray

Signature: Aton May

FIELD SAMPLING DATA SHEET LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: <u>ESTES West</u> WELL ID: $M\omega - /O$

SITE ADDRESS: Auburn, WA LABEL CODE: EW-08 21 19- Z DUPLICATE ID:_____

Wind From	N	NE	Е	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sun	ny	Clo	udy	Ra	ain		?	Temperature:	°F	°C
)			•				

.

WELL DATA

Date,	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
8/21/19		2		4.75	

PUMP/INTAKE DEPTH (ft btoc):

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turbidity
1230	1	6.61	21.4	0.51	845	- 8.7	CURAN
1232	2	6.53	21.4	0.50	843	- 13.2	1)
1234	3	6.51	21.5	0.48	837	- 14.4	+ 1
1236	4	6.50	21.5	0.47	836	-14.9	<i>(</i> '
	,						
				· · · · · · · · · · · · · · · · · · ·			

GROUNDWATER SAMPLE DATA

Sample Date: <u>8/21/19</u>

Sample Time: 1240

Bottle Type		Amo	unt & Volume	Preservative	Filter	
VOA Glass			40 ml	HC1	No	
Amber Glass	\checkmark	2	250 ml	HCl	No	
Poly			250 ml			

Total Bottles

Notes:_____

Sampled By: Steve McCray

Signature: Starya

FIELD SAMPLING DATA SHEET LOW-FLOW GROUNDWATER SAMPLING

) PLICATE

PROJECT NAME: _____ESTES West ______

WELL ID: MW-3

SITE ADDRESS: Auburn, WA

LABEL CODE: <u>EW-08</u> 21 19-3 DUPLICATE ID: <u>Ew-08</u> 21 19-4

Wind From	N	NE	Е	SE	S	SW	W	NW	Light	Medium	Heavy
Weather	Sun	ny	Clo	udy	R	ain		?	Temperature:	°F	°C

WELL DATA

Date	Time	Casing Diameter	DT-Product	DT-Water	Product Thickness
		2		5.75	

PUMP/INTAKE DEPTH (ft btoc):_____

WATER QUALITY DATA

Time	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turbidity
1306	ſ	6.48	17.9	0.25	547	-6.8	CLEAR
1308	2	6.48	17.9	0.23	537	-6.7	24
1310	2	6.47	17,9	0.22	532	-6.5	1 2
1312	4	6.48	17.9	0.21	533	-6.5	c)
	/		•				

GROUNDWATER SAMPLE DATA

Sample Date: <u>8/21/19</u> Sample Time: <u>/3</u>20

Dup 1340

Bottle Type	 Amou	int & Volume	Preservative	Filter	
VOA Glass		40 ml	HC1	No	
Amber Glass	 2	250 ml	HCl	No	
Poly		250 ml			

Total Bottles

Notes: PUMP C DIS LAM W/ NO DAW DOWN

Sampled By: <u>Steve McCray</u>

Signature:

ESTES WEST GW 8/21/19	+ Drum SAMPUL 45
100 FT& ONSITE	Courser Strap
J DBSERVA E	× ma 2 mins !
4-5012 4	3 upren
mu-1 5.64	mu-6 5-63
1-2 5,81	1 - 7 4.76
-3 5.75	-8 4.62
-5 573	1 -9 5.80
1145 CALIBURTA MA	TANS
1155 BBGIN Gw St.	
1340 ANISH BW : 1425 BEGN SOIL	
5Ampa	
17	(LABELED W/ PAINT)
D WATER, 55GAL, N D WATER, 2/3 ENC, 1	OLABEL PURER WATER'
	us + mus Dev un rea"
D Soil, 4/5 EUL, "BH	
(B) SOU WATTEL, 25 CAL SO. BH-2	-/15 GAL WATEL "DECON"
6 SUL , 4/5 500 , N	w-e
(D) SUL, 4/5 AUL,	
1545 ETG OFFSITE	Rete in the Rain ;
	Nile in the Nain.

.

ESTES WEST DWM SAMPLE 8/21/19 CONTINUED SAMPUR ID; SUIL-IDW, 14:35 dx, gx, BTEX & LAD Composite of Drums 9-19 14:40 SAMPLE ID: MW7-MW8-DEV HTS elx, gx, BTRX + UEOD HOU SAMPLE RREM DRUM 3 SAMPLE ID: WATER-IDW, 15:00 dx, gx, BTAK + USAD H20 SAMOG FROM DRUMS (DANS 2) 50% FROM EARH COMBINKO INTO SINGLE SAMPLE, 3 ETG DAVAS ONSITE - MW-10 Soit (FUL) (1/2 FULL) - MW-10 DEV + COMBY SAMPLE H20 - MW PURER (ALL WALLS) (FUL)

ATTACHMENT B LABORATORY ANALYTICAL REPORT



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

August 26, 2019

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

RE: Project: 2004-004.002/1 Former Provisio Pace Project No.: 10488696

Dear Dan Landry:

Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 2019. 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,

ENNI (TROSS

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

Enclosures

cc: Steve McCray, ETG



REPORT OF LABORATORY ANALYSIS



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

CERTIFICATIONS

 Project:
 2004-004.002/1 Former Provisio

 Pace Project No.:
 10488696

Minnesota Certification IDs

1700 Elm Street SE, 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 DW Certification #: MN00064 Arkansas WW 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 Marvland Certification #: 322 Massachusetts Certification #: M-MN064 Michigan Certification #: 9909 Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certifcation #: via MN 027-053-137 Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Missouri Certification #: 10100 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 Primary 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 Vermont Certification #: VT-027053137 Virginia Certification #: 460163 Washington Certification #: C486 West Virginia DEP Certification #: 382 West Virginia DW Certification #: 9952 C Wisconsin Certification #: 999407970 Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS



SAMPLE SUMMARY

Project: 2004-004.002/1 Former Provisio

Pace Project No.: 10488696

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10488696001	EW-082119-1	Water	08/21/19 12:10	08/23/19 08:40
10488696002	EW-082119-2	Water	08/21/19 12:40	08/23/19 08:40
10488696003	EW-082119-3	Water	08/21/19 13:20	08/23/19 08:40
10488696004	EW-082119-4	Water	08/21/19 13:40	08/23/19 08:40



SAMPLE ANALYTE COUNT

 Project:
 2004-004.002/1 Former Provisio

 Pace Project No.:
 10488696

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10488696001	EW-082119-1	NWTPH-Dx	EC2	4	PASI-M
10488696002	EW-082119-2	NWTPH-Dx	EC2	4	PASI-M
10488696003	EW-082119-3	NWTPH-Dx	EC2	4	PASI-M
10488696004	EW-082119-4	NWTPH-Dx	EC2	4	PASI-M



ANALYTICAL RESULTS

Project: 2004-004.002/1 Former Provisio

Pace Project No.: 10488696

Sample: EW-082119-1	Lab ID: 104	88696001	Collected: 08/21/1	9 12:10	Received: 08	8/23/19 08:40	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Mether	hod: NWTP	H-Dx Preparation Me	ethod: E	PA Mod. 3510C			
Diesel Fuel Range	0.63	mg/L	0.39	1	08/23/19 17:29	08/26/19 09:37	7 68334-30-5	
Motor Oil Range Surrogates	ND	mg/L	0.39	1	08/23/19 17:29	08/26/19 09:37	7	
o-Terphenyl (S)	75	%.	50-150	1	08/23/19 17:29	08/26/19 09:37	7 84-15-1	
n-Triacontane (S)	79	%.	50-150	1	08/23/19 17:29	08/26/19 09:37	7 638-68-6	
Sample: EW-082119-2	Lab ID: 104	88696002	Collected: 08/21/1	9 12:40	Received: 08	8/23/19 08:40	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
NWTPH-Dx GCS LV	Analytical Mether	hod: NWTP	H-Dx Preparation Me	ethod: E	PA Mod. 3510C			
Diesel Fuel Range	ND	mg/L	0.40	1	08/23/19 17:29	08/26/19 10:00	0 68334-30-5	
Motor Oil Range Surrogates	ND	mg/L	0.40	1	08/23/19 17:29	08/26/19 10:00	0	
o-Terphenyl (S)	75	%.	50-150	1	08/23/19 17:29	08/26/19 10:00	0 84-15-1	
n-Triacontane (S)	78	%.	50-150	1	08/23/19 17:29	08/26/19 10:00	0 638-68-6	
Sample: EW-082119-3	Lab ID: 104	88696003	Collected: 08/21/1	9 13:20	Received: 08	3/23/19 08:40	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
NWTPH-Dx GCS LV	Analytical Mether	hod: NWTP	H-Dx Preparation Me	ethod: E	PA Mod. 3510C			
Diesel Fuel Range	ND	mg/L	0.41	1	08/23/19 17:29	08/26/19 10:12	2 68334-30-5	
Motor Oil Range <i>Surrogates</i>	ND	mg/L	0.41	1	08/23/19 17:29	08/26/19 10:12	2	
o-Terphenyl (S)	77	%.	50-150	1	08/23/19 17:29	08/26/19 10:12	2 84-15-1	
n-Triacontane (S)	83	%.	50-150	1	08/23/19 17:29	08/26/19 10:12	2 638-68-6	
Sample: EW-082119-4	Lab ID: 104	88696004	Collected: 08/21/1	9 13:40	Received: 08	8/23/19 08:40	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
NWTPH-Dx GCS LV	Analytical Meth	hod: NWTP	H-Dx Preparation Me	ethod: E	PA Mod. 3510C			
Diesel Fuel Range	ND	mg/L	0.39	1	08/23/19 17:29	08/26/19 10:22	2 68334-30-5	
Motor Oil Range	ND	mg/L	0.39	1		08/26/19 10:22		
Surrogates		-						
T 1 1 (0)	70	0/			00/00/40 47 00	00/00/40 40 00	04454	

REPORT OF LABORATORY ANALYSIS

50-150

50-150

1

1

78

84

%.

%.

o-Terphenyl (S)

n-Triacontane (S)

08/23/19 17:29 08/26/19 10:22 84-15-1

08/23/19 17:29 08/26/19 10:22 638-68-6



Qualifiers

QUALITY CONTROL DATA

Project: 2004-004.002/1 Former Provisio

Pace Project No.: 10488696

QC Batch:	628232
QC Batch Method:	EPA Mod. 3510C

Associated Lab Samples:

32	Analysis Method:	NWTPH-Dx
Mod. 3510C	Analysis Description	: NWTPH-Dx GCS LV
10488696001, 1048	8696002, 10488696003, 1048869	06004

METHOD BLANK: 3389610		Matrix:	Water	
Associated Lab Samples: 104886960	001, 10488696002,	10488696003, 10	0488696004	
		Blank	Reporting	
Parameter	Units	Result	Limit	Analyzed
Diesel Fuel Range	ma/L	ND	0.40	08/26/19 09:03

Diesel Fuel Range	mg/L	ND	0.40	08/26/19 09:03
Motor Oil Range	mg/L	ND	0.40	08/26/19 09:03
n-Triacontane (S)	%.	85	50-150	08/26/19 09:03
o-Terphenyl (S)	%.	79	50-150	08/26/19 09:03

LABORATORY CONTROL SAMPLE &		33	89612							
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.6	1.7	81	83	50-150	3	20	
Motor Oil Range	mg/L	2	1.6	1.7	81	85	50-150	5	20	
n-Triacontane (S)	%.				84	86	50-150			
o-Terphenyl (S)	%.				84	86	50-150			

SAMPLE DUPLICATE: 3389613

Parameter	Units	10488696001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.63	0.62	2	30	
Motor Oil Range	mg/L	ND	.11J		30	
n-Triacontane (S)	%.	79	81			
o-Terphenyl (S)	%.	75	75			

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.



QUALIFIERS

Project: 2004-004.002/1 Former Provisio

Pace Project No.: 10488696

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 - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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



QUALITY CONTROL DATA CROSS REFERENCE TABLE

 Project:
 2004-004.002/1 Former Provisio

 Pace Project No.:
 10488696

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10488696001	EW-082119-1	EPA Mod. 3510C	628232	NWTPH-Dx	628377
10488696002	EW-082119-2	EPA Mod. 3510C	628232	NWTPH-Dx	628377
10488696003	EW-082119-3	EPA Mod. 3510C	628232	NWTPH-Dx	628377
10488696004	EW-082119-4	EPA Mod. 3510C	628232	NWTPH-Dx	628377

It.	reed accurately.		meet (701) 	он - 0000	Тике 3.3.1562
CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be convided connected	Section C Invoice Information: Attention. Company Name: ETG, Address: 1176 Maet 7th America	et the first of th	2303 2303 2303 2403 2503 2503 2503 2503 2503 2503 2503 25	Julu Julu Vinc Julu Vinc <td>The Accertible Accertible of Accertible Accertible of Acce</td>	The Accertible Accertible of Accertible Accertible of Acce
CHAIN-OF-(The Chain-of-Cust	nformation:	Purchase Order #: Project Name Former Provisioners West (Estes) Project #: 2004-004, 002/1	MPLE TEMP AT COLLECTION MPLE TEMP AT COLLECTION MPLE TEMP AT COLLECTED MPLE TEMP AT COLLECT	SA DATE TIME DATE TIME SA K NULLYC 1340 1340	RELINGUISHED BY AFFLIATION DATE SEALUE MUCHANY ETC. 924/19 SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: SIGNATURE OF SAMPLER:
Pace Analytical	Section A Required Client Information: Company: ETG Address: 1176 Wost 7th Avonue Eugene, OR 97402 Email:	Phone: Fax Requested Due Date: Standard	MATR MATR Chrau Wate Wate Wate Wate Matrix One Character por box, (A-Z, 0-91, -) Sample (ds must be unique Matrix (A-Z, 0-91, -) Matrix (A-Z, 0-91, -) Mat	1 EW-08 21 19 3 3 4 19 5 5 5 1 19 7 7 7 19 10 10 11	Page 9 of 10

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Pace Analytical*	Sample	Condition Docu	ment Nar on Upon ument No L-213-rev	Receipt For	m		Pa Issuir	Revised: 09May age 1 of 1 ng Authority: sota Quality O		
Sample Condition Upon Receipt ETG			Pr	oject #:			104	1886		
Courier: XFed Ex UPS Pace SpeeDee Tracking Number: 4034 37374		SPS ommerc	Clier			JMG ENT: E	T Gro	Due Date up	: 09/0	
Custody Seal on Cooler/Box Present?	_No Bags [Se None	als Intact ∏Oth	7 ZYes	۸[] 	lo Bio		'issue Frozen? Temp Blank?	∐Yes ØYes	
Thermometer:		Type of		Wet [Blue	None		Dry Melte	ed .	
Note: Each West Virginia Sample must have temp tal										
Temp should be above freezing to 6°C Cooler Temp Re Correction Factor:		-		27		⁰c ⁰c		age Corrected o temp blank (°(only):	See Exceptions
USDA Regulated Soil: (N/A, water sample/Other: Did samples originate in a quarantine zone within the Un ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check r If Yes to either question, fill out a	naps)?	Yes	ΠNο	A, Did sai Hawai	mples or i and Pue	iginate from rto Rico)?	a foreigi	Contents: source (interna YesN COC paperwo	ationally, i	3/ (P
							COM	MENTS:		
Chain of Custody Present and Filled Out?		No		1.		•			_ .	
Chain of Custody Relinquished?	V es			2.						
Sampler Name and/or Signature on COC?	<u> </u>	No	□n/a	3.			s 1 2	·		
Samples Arrived within Hold Time?	Z Yes	No		4.						
Short Hold Time Analysis (<72 hr)?	☐Yes							iform/E coli 🛄 B Orthophos 🔲 Oth		Hex Chrome
Rush Turn Around Time Requested? Sufficient Volume?	Ves Ves		····	6. 7.						
Correct Containers Used?							· · · · · · · · · · · · · · · · · · ·			L.
-Pace Containers Used?				8.						
Containers Intact?	Ves Yes			9.					_	
Field Filtered Volume Received for Dissolved Tests?			-					······		 ¬
Is sufficient information available to reconcile the samples to the COC?	Yes Yes	<u> </u>	∠ N/A			Visible in tr Date/Time (ved container? ner Below:		_INO See Exception
All containers needing acid/base preservation have been checked?	Yes	⊡No		12. Sampl	e #					
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	Yes	□No] NaOH	_ □+	INO3	∐H₂SO₄	□Zi	nc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	Yes	∏No	⊡n/a	Positive fo Chlorine? Res. Chlori	<u>[</u>	Yes No 0-6 Roll	pH Paj	per Lot#	0-:	See Exception
										· · · · · · · · · · · · · · · · · · ·
Headspace in VOA Vials (greater than 6mm)?	□Yes	ΠNο		13.						See Exception
Trip Blank Present?	Yes			14.						<u>k</u> _J
Trip Blank Custody Seals Present?	☐ Yes	No	∠ N/A	Pace	Trip Bla	nk Lot # (if	purchase	ed):		
CLIENT NOTIFICATION/RESOLUTION Person Contacted:				Date/Tir	ne:	Fie	eld Data	Required? [Yes	No
Comments/Resolution:										
Project Manager Review: Note: Whenever there is a discrepancy affecting North (hold, incorrect preservative, out of temp, incorrect containers).	UI (JR055	e sample	s, a copy c	f this form v	Date: vill be se		<u>8 / 2.3</u> orth Carol	/ 1 9 Ina DEHNR Cert	ification O	ffice (i.e out o

ATTACHMENT C GROUNDWATER ANALYSIS TREND CHARTS

