CHEHALIS POWER PLANT TRANSFORMER SPILLS
ADDITIONAL SITE CHARACTERIZATION REPORT

1813 BISHOP ROAD
CHEHALIS, WASHINGTON

FACILITY SITE ID NO. 3336951
CLEANUP SITE ID NO. 11776
VCP NO. SW1246

Prepared for:

PACIFICORP

Rocky Mountain Power
Chehalis Power Plant
1813 Bishop Road
Chehalis, Washington 98532

August 16, 2024

Hill West Environmental

Prepared by:
Hill West Environmental, LLC Team
A & M Engineering and Environmental Services, Inc.
1176 West 7th Avenue
Eugene, Oregon 97402

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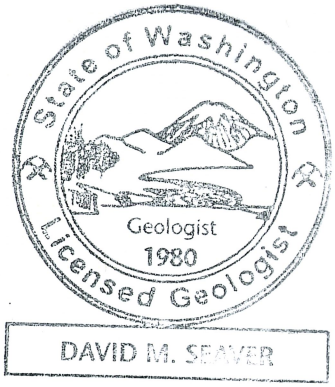
The material and data in this report were prepared under the supervision and direction of the undersigned.

Hill West Environmental, LLC Team

A&M Engineering and Environmental Services, Inc.



David M. Seaver
Senior Geologist, LPG

Daniel J. Landry
Senior Project Manager

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1 INTRODUCTION

PacifiCorp/Rocky Mountain Power (RMP) retained A&M Engineering and Environmental Services, Inc. (A&M) a member of the Hill West Environmental, LLC (Hill West) Team to prepare this Chehalis Power Plant Transformer Spills Additional Site Characterization Report (Report) to present the additional characterization of soil and groundwater related to mineral oil releases from transformers at the RMP Chehalis Power Plant (the Site) located at 1813 Bishop Road in Chehalis, Lewis County, Washington (Figures 1).

The project is being completed under the oversight of the State of Washington Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). The Site has been assigned by Ecology VCP Identification No. SW1246.

Prior Site investigations and remedial actions have been completed for soil and groundwater at the Site for the 2011 and 2013 Non-Polychlorinated Biphenyl (*Non-PCB*) mineral oil spills related to two electrical transformers. Those investigation and remedial actions have included: excavation and disposal of contaminated soil, soil borings to collect soil samples and construct groundwater monitoring wells, quarterly groundwater monitoring, and water sampling from electrical vaults located near the release areas.

In July 2016, RMP submitted a cleanup action completion report (RMP, 2016) to Ecology requesting a No Further Action (NFA) determination for the mineral oil releases. On June 26, 2017, Ecology issued an Opinion Letter (Ecology, 2017) to RMP declining an NFA determination due to data gaps in the assessment data. On March 8, 2023, the Chehalis Power Plant Transformer Spills Additional Site Characterization Work Plan (A&M, 2023) was submitted to Ecology and an Opinion Letter was requested related to the work plan meeting the requirements for additional Site characterization.

On November 30, 2023, Ecology issued an Opinion Letter (Ecology, 2023b) to RMP commenting on the March 8, 2023 work plan. Ecology requested the use of per- and poly-fluoroalkyls (PFAS) be investigated and included in the assessment of soil and groundwater, if the use aqueous film forming foam (AFFF), which contained PFAS, was used to suppress the transformer fire in January 2011. Lewis County Fire District (LCFD) #6, who responded to the fire, has indicated that AFFF with PFAS was not historically used by LCFD #6. The January 20, 2011 fire incident report and a letter from LCFD #6 certifying that LCFD #6's has not used AFFF with PFAS, including during the January 20, 2011 fire at the Site were provided to Ecology in a revised Work Plan, dated May 22, 2024 (A&M, 2024a), and further information related to the type of AFFF used by LCFD #6 during 2011 was also provided to Ecology electronically on June 20, 2024

(A&M, 2024b). On June 25, 2024, Ecology indicated in an email that they would *remove the 'suspected' PFAS in soil and groundwater designation from the Site description* (Ecology, 2024).

This Report has been prepared to present the results of the additional Site characterization conducted in June 2024 during a maintenance shutdown for the facility to address the data gaps identified by Ecology in Opinion Letters and other communications.

1.1 Report Organization

This Report is organized into the following sections:

- Section 1 (Introduction) presents the purpose of the Report;
- Section 2 (Background) presents a description of the Site and background information regarding the Site, and summarizes the results of previous Site investigations and remedial actions;
- Section 3 (Additional Site Investigation) presents information regarding the additional Site investigation soil borings, the collection of soil samples from the soil borings, the construction of the groundwater monitoring well, development and surveying of the monitoring well, collection of a groundwater sample from the culvert groundwater well, collection of groundwater samples from the electrical utility vaults, and completion of the groundwater monitoring event;
- Section 4 (Investigation Results) presents the laboratory analytical results for the soil and groundwater samples collected;
- Section 5 (Terrestrial Ecological Evaluation) summarizes the updated Terrestrial Ecological Evaluation for the Site; and
- Section 6 (Findings and Conclusions) summarizes the findings of the additional Site investigation and presents conclusions based on those assessment data.

2 BACKGROUND

This section describes background information regarding the RMP Chehalis Power Plant and the 2011 and 2013 mineral oil spills at the facility. Descriptions of the Site, background information regarding the Site, and summaries of the results of Site investigations and remedial action are presented below.

2.1 Site Description

The Site is located at 1813 Bishop Road in Chehalis, Washington in the southeast quarter of the southwest quarter of Section 10, Township 13 North, Range 2 West of the Willamette Meridian (Figure 1) at an elevation of approximately 240 feet above mean sea level. The Site is approximately 20-acres in area and is currently a power plant facility including two combustion turbines, one steam turbine, electrical transformers, heat recovery steam generators, air emissions control equipment, exhaust gas stacks, air-cooled steam condenser, water treatment equipment, and operations and maintenance building (Figure 2). The facility also includes two (2) inactive 1.7-million-gallon fuel oil storage tanks located in lined earthen containment which were closed in May 2013. The eastern storage tank was recommissioned as a raw water storage tank in June 2018.

The generator step-up (GSU) transformers located on the northwest portion of the property (Figure 3) convert the generated electrical power to high voltage for transmission at the Bonneville Power Authority (BPA) substation located adjacent to the Site. The electrical transformers at the power plant use mineral oil as a dielectric fluid. The transformers are certified as *Non-PCB*, as is standard for transformers manufactured after the 1970s. The mineral oil in GSU#1 was tested after the failure in 2011 to confirm no PCBs were present.

Storm water collected from the Site is directed by storm water ditches and underground pipes to a retention pond located southwest of the GSU transformers (Figure 2). Storm water is discharged from the retention pond to a waterway to a nearby drainage under an Ecology Industrial Storm Water General NPDES Permit.

2.2 Surrounding Properties

The Site is located 3-miles south of Chehalis, Washington and the area consists mostly of farms, small pockets of light industrial areas, rural homes, and a few housing subdivisions. There are several roadways near the Site, the closest being Bishop Road. Interstate

Highway 5 is ¼-mile southwest of the Site and Jackson Highway is ½-mile northeast of the Site.

The electrical substation property adjoining the power plant on the west side is owned by BPA and was constructed for the Site to transport power generated by the power plant to the BPA high voltage electrical transmission line less than 1-mile west of the Site. The fenced substation is surrounded by Site property on three sides (Figure 2).

Other properties adjoining the Site include:

- East of the Site is an open agricultural field;
- South of the Site is a transportation terminal operated by Armellini Logistics, a vacant commercial property, and a farm, incorporating a residence, garage, shop, barns and several acres of open pasture;
- West of the Site is the headquarters for Zelus Shoe Insoles, a mobile structures manufacturing facility operated by Pacific Mobile Structures, and a natural waterway and wetland adjoining the power plant storm water waterway; and
- North of the Site is a Fred Meyer retail distribution transportation warehouse and paved parking lot.

2.3 Land Use History

According to KTA Associates, Inc.'s (KTA) *Cleanup Action Report* (KTA, 2016), the Chehalis Power Plant was originally developed by independent power companies who purchased the property in the mid-1990s and began permitting for a power plant. Construction was delayed several years for siting and environmental permitting. Construction began in May 2001, was commissioned in August 2003, and the power plant began operation in October 2003. Tractebel, a Belgium consultancy and engineering services in the energy, water, nuclear, and infrastructure sectors company, which in 2003 merged with Société Générale de Belgique (SUEZ), developed and operated the power plant. PacifiCorp purchased the power plant in 2008. Prior to construction, the power plant property was an agricultural field.

2.4 Geology and Hydrogeology

Site geology and hydrogeology are presented in the following section. The information was provided in KTA's *Cleanup Action Report* (KTA, 2016) dated June 2016.

2.4.1 Site Geology

A geotechnical subsurface investigation was conducted by URS Corporation (URS) in 2000 for the construction of the power plant. The URS *Geotechnical Data Report*

Subsurface Investigation (URS, 2000) indicates the surficial geology beneath the Site consists of late glacial sand and gravel deposits from the Hayden Creek Drift. Silt and clay deposits underlie the surface soil to a depth of 100 to 200 feet in the area of the Site.

The overall soil-type distribution at the Site consists of a low permeability silt and clay layer underlain by 45 to 50 feet of water-bearing sand and gravel, underlain by a silt and clay aquitard. These soil types are consistent with regional geologic mapping (Weigle and Foxworthy, 1962) and a regional study for the Chehalis Generation Facility (Dames and Moore, 1994). These regional studies classify the upper 50 feet of soil in the area of the site as recent alluvium and glaciofluvial sediments. The aquitard found at approximately 50 feet below grade surface (bgs) is widespread and is often described as blue-gray, clayey silt, reported to be more than 100 feet thick (Dames and Moore, 1994).

2.4.2 Site Hydrogeology

The Site is located in the Chehalis River Valley, in the northwest-southeast Newaukum River drainage that flows northwest to the Chehalis River. The area around the Site is a relatively flat bench of level soils used for agriculture. In general, the surface, and likely groundwater flow, is southwest from the foothills in the northeast to the river at the bottom of the drainage valley to the southwest.

The power plant yard areas are graded level with a layer of gravel in the transformer area. Surface water at the Site flows to storm water ditches along the roadway encircling the Site which collects and directs storm water to a retention pond. The pond outfall flows west in a gravel waterway (under an Industrial Storm Water permit) to Berwick Creek. Berwick Creek flows from east to west, under Bishop Road and Interstate Highway 5, to Dillenbaugh Creek, which then flows into the Newaukum River.

Regional investigations conducted by others (Dames and Moore, 1994) have categorized the shallow aquifer in the area as unconfined or semi-confined. However, the shallow aquifer appears to exhibit the characteristics of a confined or semi-confined aquifer, primarily due to the low permeably silt cap immediately above the aquifer (KTA, 2016).

The field exploration for the URS *Geotechnical Data Report Subsurface Investigation* (URS, 2000) was conducted in August 2000. At that time, the groundwater elevation was found to be 15 to 20 feet bgs. During the groundwater investigation in May 2011, the groundwater elevation was found to be 5 to 14 feet bgs. Groundwater measurements collected during groundwater monitoring events conducted from April 2015 to March 2016 indicated the groundwater level varied between 3.5 and 7.4 feet bgs with a consistent southwest groundwater flow direction.

2.5 Site Investigation and Remedial Actions

Site investigation related to the mineral oil spills and the subsequent remedial actions are presented in the following section. The information was summarized in KTA's *Cleanup Action Report* (KTA, 2016) dated June 2016. Groundwater elevation data and soil and groundwater analytical results and groundwater monitoring culvert and electrical vault analytical results are summarized in Tables 1 through 4.

2.5.1 2011 GSU#1 Transformer Failure and Oil Release

On January 20, 2011, transformer GSU#1 failed with an explosion and fire. *Non-PCB* mineral oil in the transformer sprayed onto the transformer containment structure and to the soil outside the containment. Fire suppression fluids overflowed the containment and flowed into adjacent storm water ditches resulting in some oily water reaching the storm water pond (Figure 3).

Cowlitz Clean Sweep (CCS) of Longview, Washington was retained for emergency spill response and completed spill cleanup, followed by sampling of the soil and water from the storm water ditches, storm water pond, and the area around transformer GSU#1. The contaminated soil and gravel in the ditches and pond were removed by CCS and replaced with clean material. At the same time, the west side of the transformer containment was excavated for a larger foundation and containment structure for the replacement transformer. The storm water ditch west of transformer GSU#1 was replaced with a culvert, and the new concrete containment structure was constructed. The area around transformer GSU#1 affected by the mineral oil sprayed during the transformer explosion release was remediated by excavating contaminated soil and gravel. Clean fill was deposited in the excavated area and compacted (RMP, 2012).

Laboratory analytical results for confirmation soil samples indicated three (3) locations with reported concentrations exceeding the Ecology Model Toxics Cleanup Act (MTCA) Method A cleanup level (CUL) for mineral oil (4,000 milligrams per kilogram [mg/kg]). Two (2) of the locations, the ditch and pond bank, were further excavated to meet the CUL. The third location (Sample #D8, 28,100 mg/kg) was collected at 20-inches bgs within the storm water ditch west of transformer GSU#1, which was not accessible for excavation and re-sampling due to the new transformer foundation containment extension (KTA, 2016).

2.5.2 2011 Site Investigation

In May 2011, KTA's subcontractor TEC, Inc. completed a site investigation that included groundwater assessment to determine whether impacts from the transformer GSU#1 mineral oil release were present (TEC, 2011). Six (6) direct-push soil borings were advanced to collect soil samples and groundwater samples from temporary monitoring wells. Four (4) temporary monitoring wells were placed downgradient of the transformer,

one (1) up gradient of the transformer, and one (1) directly west of the transformer (Figure 3).

Soil boring field screening observed a limited oil sheen only in borehole GW-4. Subsurface soil samples were collected from the gravel/clay soil interface at three locations (SG-1, SG-2, and SG-3). Mineral oil was reported in only one soil sample, SG-1, at a concentration of 160 mg/kg, the location nearest to transformer GSU#1. Mineral oil was only reported in the groundwater sample collected from temporary groundwater well GW-4, located within the transformer explosion spray area and nearest to transformer GSU#1, at a concentration of 1,100 microgram per liter (µg/L), above the Ecology MTCA Method A CUL of 500 µg/L.

2.5.3 2013 GSU#3 Transformer Failure and Oil Release

On November 22, 2013, transformer GSU#3 experienced an explosive failure and subsequent fire similar to transformer GSU#1, which resulted in a release of *non-PCB* mineral oil around the transformer and into the storm water system. Fire suppression water filled the concrete transformer containment and overflowed to the surrounding soil and gravel across the gravel road to nearby storm water ditches impacting the storm water pond, but not the outfall, as storm water was not being discharged due to the dry weather.

Oil and water from the transformer containment flowed south and north to the storm water ditch, east towards the turbine building, and west across the road to storm water ditches. The ditches to the south and west flow into the pond through underground culverts (Figure 3). Due to cold dry weather, the extent of the contamination was simple to observe and contain (CCS, 2013).

CCS of Longview, Washington provided spill response and cleanup. Mineral oil and contaminated water were removed from the pond, ditches, and transformer containment and stored in tanks on-Site, treated, and then discharged to the sanitary sewer. After the transformer was replaced, CCS excavated oil-contaminated gravel and soil around the transformer containment, storm water ditches, and pond banks. The soils were removed to a depth below the contamination level or to the compacted clay soil layer approximately 4 to 5 feet bgs. The excavations were backfilled, and the excavated gravel and soil were stored on-Site pending off-Site disposal.

CCS conducted confirmation soil sampling of the underlying soil before replacement of the excavated gravel and soil. Samples were collected throughout the extent of excavation. Mineral oil was only reported in two (2) soil samples at concentrations of 128 mg/kg and 76.9 mg/kg, below the Ecology MTCA Method A CUL of 4,000 mg/kg (RMP, 2016).

At the conclusion of soil excavation during cleanup activities in January 2014, an oil sheen was observed on the perched groundwater layer approximately 5-feet bgs. CCS installed an open, vertical, slotted culvert on the south side of the containment for the transformer, near the location where most of the oil/water flowed over the containment wall (Figure 3).

The culvert was installed to a depth just below the bottom of the perched groundwater layer. Power plant staff inspected the groundwater in the following months of 2014. Minimal oil droplets were observed as the groundwater level declined in the spring until groundwater was no longer present at the bottom of the culvert (5-feet bgs). When the groundwater level rose in the fall of 2014, initially a few droplets of oil were observed, but were not observed following that time (RMP, 2016).

2.5.4 2013 Site Investigation

In October 2013, KTA's subcontractor Cardno (formerly TEC, Inc) advanced three (3) direct-push soil borings up to 30 feet bgs to collect soil samples and to construct, develop, and sample three (3) groundwater monitoring wells at the Site. Groundwater monitoring wells were installed in the shallow water bearing zone at two of the three locations. Monitoring well MW-1 was located adjacent to soil sample D8 which was collected under the transformer containment structure, the soil boring for proposed monitoring well MW-2 was located near soil boring GW-4, and monitoring well MW-3 was located downgradient from the transformer in a location outside the spill contamination area to triangulate groundwater level and flow direction (Figure 3). Only two of the groundwater monitoring wells were installed. This was due to encountering utilities during the construction of MW-2 (Cardno, 2014).

Mineral oil was not reported at, or above the laboratory reporting limit (RL) in the three (3) soil samples collected from the soil/groundwater interface. Mineral oil was reported in the groundwater sample collected from the soil boring for MW-2 at a concentration of 380 µg/L, below the Ecology MTCA Method A cleanup level of 500 µg/L (Cardno, 2016).

2.5.5 Groundwater Investigation 2015/2016

From March 2015 through March 2016, KTA along with their subcontractors Cardno and Clear Water Services (CWS) conducted groundwater investigation that included an assessment of potential impacts to subsurface soil and shallow groundwater within certain Site areas previously exposed to mineral oil releases in 2013 at the power plant. The assessment consisted of advancing three (3) hollow-stem soil borings from 26.5 to 31.5 feet bgs to collected soil samples and to construct and develop three (3) groundwater monitoring wells at the Site, and completion of four (4) consecutive groundwater monitoring events.

2.5.5.1 Monitoring Well Installation

In April 2015, groundwater monitoring wells MW-4, MW-5, and MW-6 were installed in the shallow water bearing zone at three (3) locations (Cardno, 2015a). Monitoring well MW-4 was located south-southeast of the extent of soil contamination from the transformer GSU#3 release, monitoring well MW-5 was located at the northeast corner of the storm water pond, and monitoring well MW-6 was located west of the extent of soil

contamination from the transformer GSU#3 release (Figure 3). Soil samples were collected at a depth of 4 to 6 feet bgs from each soil boring.

Diesel range organics (DRO), mineral oil, and residual range organics (RRO) were not reported above Ecology MTCA Method A cleanup levels (CULs) in the three (3) soil samples.

2.5.5.2 Groundwater Monitoring

Groundwater monitoring was conducted on a quarterly basis in April, July, and December 2015 and March 2016 to assess groundwater quality and determine groundwater flow direction and gradient (Cardno, 2015b and 2015c, and CWS, 2016a and CWS, 2016b).

During each monitoring event, prior to sample collection, each monitoring well was opened and allowed to equilibrate to the current ambient air pressure and an electronic interface probe was used to check for the presence/thickness of any accumulated free-phase hydrocarbons (FPH) and to measure depth to groundwater. Groundwater samples were collected from each monitoring well using low-flow sampling techniques. Groundwater samples were analyzed for DRO, mineral oil, and RRO.

DRO, mineral oil, and RRO were not reported at, or above their respective laboratory RLs in all groundwater samples collected during the four (4) quarterly groundwater monitoring events.

Groundwater elevations and flow direction data collected during the quarterly groundwater monitoring events indicated a general flow direction to the southwest with a groundwater gradient of approximately 0.01 feet/foot.

2.5.6 2015 Electrical Vault Water Sampling

During a Site visit in March 2015, it was noted that the electrical utility vaults in the areas adjacent to transformers GSU#1 and GSU#3, and areas in between, were at least partially filled with inflowing storm water infiltration and groundwater that filled the utility trenches leading to these vaults. The system of electrical vaults is equipped with submersible pumps to remove the in-flow water and are connected to piping that discharges to the main storm water drainage ditches running along the western boundary of the GSUs. Though plant operators had not observed oil discharged into the ditches or storm water pond, it was concluded that the pumping from the vaults could be a potential mechanism for removal of any residual groundwater oil contamination since the oil spill cleanup. A decision was made to collect and analyze water samples from select vaults (Cardno, 2015a).

On April 7, 2015, electrical utility vaults EMHC-001, EMHM-002, EMHC-002, EMHM-003, and EMHC-003 (Figure 5) were inspected to assess for the presence of an oil sheen and the collection of water samples. A possible oil sheen was noted in vaults EMHC-001, EMHM-003, and EMHC-003 (Figure 5). Water samples were collected from

vaults EMHC-001, EMHC-002, EMHM-003, and EMHC-003 and analyzed for DRO, mineral oil, and RRO.

DRO and mineral oil were reported above their Ecology MTCA Method A CULs (500 µg/L) in the sample collected from electrical vault EMHC-001 located southeast of transformer GSU#1. RRO was not reported above the Ecology MTCA Method A CUL in the sample. In the remaining samples, DRO, mineral oil, and RRO were either not reported at, or above their respective laboratory RLs or reported below their Ecology MTCA Method A CULs.

3 ADDITIONAL SITE INVESTIGATION

From June 9 through 11, 2024, additional Site investigation was completed for the Site. Prior investigations and remedial actions have been completed for soil and groundwater at the Site for the *Non-PCB* mineral oil spills related to transformers GSU#1 and GSU#3. In July 2016, RMP submitted a cleanup action completion report (RMP, 2016) to Ecology requesting a NFA determination for the mineral oil releases. On June 26, 2017, Ecology issued an Opinion Letter (Ecology, 2017) to RMP declining an NFA determination due to data gaps in the assessment data. A Work Plan was submitted on May 22, 2024 (A&M, 2024a) with a proposed scope of work to be conducted in June 2024 during a maintenance shutdown for the facility. The proposed scope of work addressed the data gaps identified by Ecology in the June 2017 and November 2023 Opinion Letters (Ecology, 2017 and 2023b), a follow-up letter from Ecology dated December 5, 2022 (Ecology, 2022), and a conversation with Ecology on December 27, 2022.

The proposed additional Site investigation included: direct-push soil borings to collect soil samples near soil sample D-8 and soil borings SB-2 and GW-4, and to install a groundwater monitoring well near soil borings SB-2 and GW-4; collection of groundwater samples from the groundwater monitoring culvert and electrical utility vaults; decommissioning of the groundwater monitoring culvert; and completion of a groundwater monitoring event for the existing and new Site groundwater monitoring wells.

The following sections present the additional characterization completed to address the identified data gaps.

3.1 Pre-Field Activities

A Site-specific health and safety plan (HASP) was prepared in accordance with Occupational Safety & Health Administration (OSHA) CFR 1910.120. The HASP included a chemical and physical hazard evaluation, an operations plan, safety equipment and procedures, and emergency procedures.

Prior to initiating the soil boring activities, all appropriate notifications were made for the subsurface investigation activities. Underground utilities in the planned sampling area were located through Washington Utility Location Center and the locations approved by RMP. Each soil boring location was also cleared using a third-party private utility locator for the proposed subsurface investigation locations.

3.2 Field Activities

From June 9 through 11, 2024, additional Site investigation was completed for the Site. The Site investigation included: direct-push soil borings to collect soil samples and to install a groundwater monitoring well, collection of groundwater samples from the groundwater monitoring culvert and electrical utility vaults, and completion of a groundwater monitoring event. All work was completed consistent with that proposed in the *Chehalis Power Plant Transformer Spills, Additional Site Characterization Work Plan (Revised)*, dated May 22, 2024 (A&M, 2023), except for decommissioning the groundwater monitoring culvert which will be completed during the next transformer maintenance shutdown anticipated to occur in second quarter 2025.

3.3 Soil Boring/Monitoring Well Installation – Former GW-4 and SB-2 Soil Boring Location

Ecology requested in the June 2017 Opinion Letter (Ecology, 2017) that depth-discrete soil and groundwater sampling be completed in the immediate vicinity of former soil borings GW-4 and SB-2 to evaluate the current concentration of mineral oil in soil and groundwater.

3.3.1 Soil Boring

On June 9, 2024, A&M directed Steadfast Services Northwest, LLC of Vancouver, Washington, a licensed Washington well installer, to attempt to advance a direct-push soil boring to 30-feet bgs near historical soil borings GW-4 and SB-2 (Figure 3) to collect soil samples and install a groundwater monitoring well. At 22.0 feet bgs, refusal was met, and the direct-push boring was terminated.

During direct-push drilling activities soil samples were collected continuously in new plastic liners provided by the direct-push drilling contractor. Each liner was opened, and the soil field screened for visible contamination and odors. Soil samples were collected from the boring at 10 feet bgs, the groundwater/soil interface, and at 20 feet bgs. The soil samples were collected in laboratory-supplied jars, labeled with a unique identification, and delivered in an iced cooler using standard A&M chain-of-custody (COC) procedure to Pace Analytical Services, LLC (Pace) of Minneapolis, Minnesota, an Ecology accredited laboratory for analyses.

A log of soil samples from each direct-push boring were prepared in the field and recorded on a standard A&M exploratory boring log form. Field logs included the project name and location, name of the drilling contractor, drilling method, sampling method, soil sample depths, field screening results, and descriptions of the soils encountered. Subsurface lithology were described consistent with American Society for Testing and Materials (ASTM) D2488-84, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*.

Native lithology observed during advancing direct-push boring MW-2R consisted of gravel fill to a depth of 1.5 feet bgs, underlain by sandy gravel to a depth of 7.0 feet bgs, underlain by medium brown silty sand with trace gravel to the total depth explored of 22 feet bgs. Saturated soil was encountered at a depth of approximately 10 feet bgs in the direct-push boring, and later stabilized at 4.0 feet bgs. A copy of the soil boring log is provided in Appendix A.

3.3.1.1 Laboratory Analyses

The soil samples were submitted under standard A&M COC procedure to Pace of Minneapolis, Minnesota, an Ecology accredited laboratory for analysis of DRO by Ecology Method NWTPH-Dx and held for Extractable Petroleum Hydrocarbons (EPH) by Ecology Method WA-EPH, pending analytical results.

3.3.2 Groundwater Well Installation

As requested by Ecology and consistent with the Work Plan (A&M, 2023), to obtain depth-discrete groundwater samples, a groundwater monitoring well (MW-2R) was installed in the soil boring.

3.3.2.1 Well Construction

Following completion of the direct-push boring, the borehole was caved to approximately 13-feet bgs. A monitoring well was constructed in the direct-push boring using 2-inch diameter flush-threaded, Schedule 40, polyvinyl chloride (PVC) blank casing from the ground surface to top of the screened interval with 10-feet of 2-inch diameter pre-packed 0.020-inch slotted PVC casing set from 3 to 13 feet bgs. The well was completed with a flush-mount, traffic-rated well box monument.

3.3.2.2 Well Development

On June 10, 2024, the groundwater monitoring well was developed by surging with a bailer and then pumping the water from the well. The well dewatered during development and was allowed to recharge overnight and was sampled.

3.3.2.3 Surveying

Following groundwater monitoring well construction, the top of casing and top of box elevation, as well as the State Plane northerly and easterly location for the new shallow groundwater monitoring well and the five (5) existing groundwater monitoring wells were surveyed by Foresight Surveying, Inc. of Chehalis, Washington a licensed Washington Land Surveyor.

3.4 Soil Sampling – Former Soil Boring D8 Location

Ecology requested in the June 2017 opinion letter (Ecology, 2017) that depth-discrete soil sampling be completed in the immediate vicinity of former soil boring D8 to evaluate the current concentration of mineral oil in soil and the extent of vertical contamination.

3.4.1 Direct-Push Soil Sampling

On June 9, 2024, A&M directed Steadfast Services Northwest, LLC of Vancouver, Washington, to advance a direct-push soil boring to 15-feet bgs near historical soil boring D8 (Figure 3) to collect soil samples.

During direct-push drilling activities soil samples were collected continuously in new plastic liners provided by the direct-push drilling contractor. Each liner was opened, and the soil field screened for visible contamination and odors. Soil samples were collected from the boring at 1.6 feet bgs, immediately below the gravel fill and at the groundwater/soil interface at 9 feet bgs. All soil samples were collected in laboratory-supplied jars, labeled with a unique identification, and delivered in an iced cooler using standard A&M COC procedure to Pace of Minneapolis, Minnesota, an Ecology accredited laboratory for analysis.

A log of soil samples from each direct-push boring were prepared in the field and recorded on a standard A&M exploratory boring log form. Field logs included the project name and location, name of the drilling contractor, drilling method, sampling method, soil sample depths, field screening results, and descriptions of the soils encountered. Subsurface lithology were described consistent with American Society for Testing and Materials (ASTM) D2488-84, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*.

Native lithology observed during advancing direct-push boring SB-1 consisted of gravel fill to a depth of 1.0 feet bgs, underlain by medium brown sandy silt to a depth of 7.5 feet bgs, underlain by medium brown silty to coarse sand to the total depth explored of 15 feet bgs. Saturated soil was encountered at a depth of approximately 10 feet bgs in the direct-push boring. A copy of the soil boring log is provided in Appendix A.

3.4.1.1 Laboratory Analyses

All soil samples were submitted for analysis by Ecology Method NWTPH-Dx and held for EPH by Ecology Method WA-EPH, pending analytical results.

3.5 Groundwater Monitoring Culvert Sampling

Ecology requested in the June 2017 opinion letter (Ecology, 2017) that a sample be collected from the vertical *groundwater monitoring culvert* installed south of GSU #3 (Figure 3) to evaluate the current concentration of mineral oil in groundwater. Ecology

also requested following completion of additional Site assessment the culvert be decommissioned by a Washington licensed well installer in accordance with Washington Administrative Code (WAC) 173-160-460.

3.5.1 Groundwater Sampling

On June 9, 2024, a groundwater sample was collected utilizing the USEPA's *Standard Operating Procedure for Low-Stress (Low Flow)/Minimal Drawdown Ground-Water Sample Collection* (USEPA, 2021). Prior to sampling, a depth to water measurement was collected to determine the static water level in the culvert. A peristaltic pump with new, disposable tubing was placed in the culvert so that the tubing intake was located at 7.25-feet bgs, the mid-point of the saturated screened interval. The vault was purged at a flow rate of approximately 0.5 liters per minute to maintain static groundwater depth to within 0.3 feet of the static level. During purging, field parameters including: pH, conductivity, temperature, oxygen reduction potential (ORP), turbidity, and dissolved oxygen (DO) were measured. A groundwater sample was collected after at least three sequential field parameter readings had stabilized to within the limits specified in the USEPA procedure. Field sampling data were recorded on a Field Sampling Data Sheet (FSDS) and is provided in Appendix B.

The groundwater sample was placed directly into laboratory-supplied glassware with as little disturbance as possible, labeled with a unique identification, and delivered in an iced cooler using standard A&M COC procedure to Pace of Minneapolis, Minnesota, an Ecology accredited laboratory for analysis.

3.5.1.1 Laboratory Analyses

The groundwater sample was submitted for analysis by Ecology Method NWTPH-Dx and held for EPH by Ecology Method WA-EPH, pending analytical results.

3.5.2 Culvert Decommissioning

Following sample collection, the groundwater monitoring culvert was not decommissioned as planned. The construction contractor required for casing removal was unavailable to complete the work during period June 9 through 11, 2024. The groundwater monitoring culvert will be decommissioned during the next transformer maintenance shutdown anticipated to occur in second quarter 2025.

3.6 Electrical Utility Vault Sampling

Ecology requested in the June 2017 opinion letter (Ecology, 2017) that the electrical utility vaults EMHC-001, EMHC-002, EMHM-003, and EMHC-003 (Figure 3) sampled in 2015 be resampled to assess the current water quality conditions and their potential risk to on-Site workers.

3.6.1 Water Sampling

On June 9, 2024, groundwater samples were collected from the four (4) electrical utility vaults. Water samples were collected from the electrical utility vaults utilizing the USEPA's *Standard Operating Procedure for Low-Stress (Low Flow)/Minimal Drawdown Ground-Water Sample Collection* (USEPA, 2021). Prior to sampling, depth-to-water measurements were used to determine the static water level in each vault (4.82 to 8.40 feet bgs). A peristaltic pump with new, disposable tubing was placed in the vault so that the tubing intake was located within the first 3-feet of water. The vault was purged at a flow rate of approximately 0.5 liters per minute to maintain static groundwater depth to within 0.3 feet of the static level. During purging, field parameters including: pH, conductivity, temperature, ORP, turbidity, and DO were measured. Water samples were collected after at least three sequential field parameter readings stabilized to within the limits specified in the USEPA procedure. Field sampling data were recorded on FSDSs and are provided in Appendix B.

The water samples were placed directly into laboratory-supplied glassware with as little disturbance as possible, labeled with a unique identification, and delivered in an iced cooler using standard A&M COC procedure to Pace of Minneapolis, Minnesota, an Ecology accredited laboratory for analysis.

3.6.1.1 Laboratory Analyses

All water samples were submitted for analysis by Ecology Method NWTPH-Dx and held for EPH by Ecology Method WA-EPH, pending analytical results.

3.7 Groundwater Monitoring

The last groundwater monitoring event for the release was completed in March 2016. To establish current groundwater quality, a groundwater monitoring event was completed in June 2024. Groundwater monitoring wells MW-1, MW-2R, MW-3, MW-4, MW-5, and MW-6 were included in the monitoring event.

3.7.1 Groundwater Sampling

On June 10 and 11, 2024, a groundwater monitoring event was completed for the Site. Depth-to-water measurements were collected from monitoring wells MW-1, MW-2R, MW-3, MW-4, MW-5, and MW-6 using a decontaminated electronic water probe. Depth-to-water readings were measured to the nearest 0.01-foot from the north side of the top of each well casing. The measurements were recorded on a groundwater monitoring FSDS.

Groundwater samples were collected utilizing the USEPA's *Standard Operating Procedure for Low-Stress (Low Flow)/Minimal Drawdown Ground-Water Sample Collection* (USEPA, 2021). Prior to sampling, depth-to-water measurements were used to

determine the static water level in each well (3.95 to 5.46 feet bgs). A peristaltic pump with new, disposable tubing was placed in the well so that the pump or tubing intake was located at approximately the mid-point of the screened interval. The well was purged at a flow rate of approximately 0.5 liters per minute, or slower if drawdown in the well was observed to exceed 0.3 feet from the static level. During purging, field parameters including: pH, conductivity, temperature, ORP, turbidity, and DO were measured. Groundwater samples were collected after at least three sequential field parameter readings stabilized to within the limits specified in the USEPA procedure. Field sampling data were recorded on FSDSs and are provided in Appendix B.

The groundwater samples were placed directly into laboratory-supplied glassware with as little disturbance as possible, labeled with a unique identification, and delivered in an iced cooler using standard A&M COC procedure to Pace of Minneapolis, Minnesota, an Ecology accredited laboratory for analysis.

3.7.1.1 Laboratory Analyses

All groundwater samples were submitted for analysis by Ecology Method NWTPH-Dx and held for EPH by Ecology Method WA-EPH, pending analytical results.

4 INVESTIGATION RESULTS

The following sections present the laboratory analytical results for the soil and groundwater samples collected during the additional Site investigation and the groundwater flow direction and gradient based on groundwater elevation monitoring data collected during the June 2024 groundwater monitoring event.

4.1 Soil Assessment Analytical Results

The analytical results for the soil samples collected from two (2) direct-push soil borings on June 9, 2024 at the Site are summarized below and presented in Table 1 with comparisons to Ecology MTCA Method A CULs. A copy of the laboratory analytical report is provided in Appendix C.

Laboratory analytical results for the soil samples collected from the Site indicate the following:

4.1.1 Former GW-4 and SB-2 Soil Boring Location

- DRO was not reported at or above the laboratory RL in the soil samples collected from soil boring MW-2R.

- ORO was not reported at or above the laboratory RL in the soil samples collected from soil boring MW-2R.

4.1.2 Former Soil Boring D8 Location

- DRO was not reported at or above the laboratory RL in the soil sample collected from soil borings SB-1.

- ORO was reported between the laboratory RL and the laboratory method detection limit (MDL) in the soil sample collected at 1.6 feet bgs from soil boring SB-1 at an estimated concentration of 10.9 mg/kg, below the Ecology MTCA Method A CUL of 2,000 mg/kg. ORO was not reported at or above the laboratory RL in the remaining soil sample.

4.2 Groundwater Assessment Analytical Results

The analytical results for the groundwater samples collected on June 9 through 11, 2024 from the groundwater monitoring culvert, the four (4) electrical utility vaults, and during the groundwater monitoring event for the six (6) groundwater monitoring wells at the Site are summarized below and presented in Tables 3 and 4 with comparisons to Ecology MTCA Method A CULs and on Figure 4. A copy of the laboratory analytical report is provided in Appendix C.

Laboratory analytical results for the groundwater samples indicate the following:

4.2.1 Groundwater Monitoring Culvert

- DRO was reported between the laboratory RL and the laboratory MDL, in the groundwater sample collected from the groundwater monitoring culvert at an estimated concentration of 230 µg/L, below the Ecology MTCA Method A CUL of 500 µg/L.

- ORO was not reported at or above the laboratory RL in the groundwater sample collected from the groundwater monitoring culvert.

4.2.2 Electrical Utility Vaults

- DRO was not reported at or above the laboratory RL in the groundwater samples collected from the electrical utility vaults.

- ORO was not reported at or above the laboratory RL in the groundwater samples collected from the electrical utility vaults.

4.2.3 Groundwater Monitoring Wells

- DRO was reported between the laboratory RL and the laboratory MDL, in the groundwater sample collected from groundwater monitoring well MW-2R at an estimated concentration of 270 µg/L, below the Ecology MTCA Method A CUL of 500 µg/L.

  DRO was not reported at or above the laboratory RL in the remaining groundwater samples collected from the monitoring wells.

- ORO was not reported at or above the laboratory RL in the groundwater samples collected from the monitoring wells.

4.3 Groundwater Elevation Monitoring

A&M collected depth-to-groundwater measurements from monitoring wells MW-1, MW-3, MW-4, MW-5, and MW-6 on June 10, 2024 and on June 11 from MW-2R to determine groundwater elevations at the Site (Table 1). Based on the measurements collected during the June 2024 monitoring event, a groundwater elevation contour map was generated for the shallow groundwater bearing zone (Figure 5). During the June 2024 groundwater monitoring event, shallow groundwater flow direction at the Site was observed to be predominantly to the southwest with a calculated horizontal gradient of less than 0.01 feet per foot (ft/ft). The observed groundwater flow direction and horizontal gradient was generally consistent with that observed in previous monitoring events.

5 TERRESTIAL ECOLOGICAL EVALUATION

As requested by Ecology, an updated Terrestrial Ecological Evaluation (TEE) was completed for the Site.

A determination was made that the Site meets one of the four exclusion criteria. The Site was therefore excluded from further evaluation under the TEE. The exclusion criterion met at the Site was:

> WAC-173-340-7491(1)(b) – *All soil contaminated with hazardous substances is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination.*

The soil contamination above Ecology MTCA Method A is located beneath a concrete containment area that surrounds GSU#1. The concrete structure will remain in place during current and future operation of the facility. Therefore, potential exposure pathways for terrestrial ecological receptors are not complete.

A copy of the updated TEE is provided as Appendix D.

6 FINDINGS AND CONCLUSIONS

From June 9 through 11, 2024, additional Site investigation was completed for the Site. The Site investigation included: direct-push soil borings to collect soil samples and to install a groundwater monitoring well, collection of groundwater samples from the groundwater monitoring culvert and electrical utility vaults, and completion of a groundwater monitoring event. All work was completed consistent with that proposed in the *Chehalis Power Plant Transformer Spills, Additional Site Characterization Work Plan (Revised)*, dated May 22, 2024 (A&M, 2023), except for decommissioning of the groundwater monitoring culvert.

A summary of the findings and conclusions based on the Site investigation results are provided in the following sections.

6.1 Summary of Findings

6.1.1 Soil Assessment and Groundwater Monitoring Well Installation

On June 9, 2024, two (2) direct-push soil borings were advanced to assess the immediate vicinity of former soil borings GW-4 and SB-2 and installation of a groundwater monitoring well, and to assess soil in the immediate vicinity of former soil boring D8 and the extent of vertical contamination.

The results of the additional soil assessment and groundwater monitoring well installation are as follows:

6.1.1.1 Former GW-4 and SB-2 Soil Boring Location

- Soil boring MW-2R was advanced to 22.0 feet bgs where refusal was met, and the direct-push boring was terminated. Soil samples were collected from the boring at 10 feet bgs, the groundwater/soil interface, and at 20 feet bgs. A groundwater monitoring well was installed using PVC blank casing from the ground surface to top of the screened interval with 10-feet of 2-inch diameter pre-packed 0.020-inch slotted PVC casing set from 3 to 13 feet bgs, and was completed with a flush-mount, traffic-rated well box monument.
- Foresight Surveying, Inc. of Chehalis, Washington a licensed Washington Land Surveyor, surveyed the top of casing and top of box elevation, as well as the State

Plane northerly and easterly location for the new shallow groundwater monitoring well and the five (5) existing monitoring wells.

- DRO and ORO were not reported at or above the laboratory RL in the soil samples collected from soil boring MW-2R.

6.1.1.2 Former Soil Boring D8 Location

- Soil boring SB-1 was advanced to 15.0 feet bgs. Soil samples were collected from the boring at 1.6 feet bgs, immediately below the gravel fill, and at the groundwater/soil interface at 9 feet bgs.

- DRO were not reported at or above the laboratory RL in the soil samples collected from soil boring SB-1.

- ORO was reported between the laboratory RL and the laboratory MDL in the soil sample collected at 1.6 feet bgs from soil boring SB-1 at an estimated concentration of 10.9 mg/kg, below the Ecology MTCA Method A CUL of 2,000 mg/kg.

6.1.2 Groundwater Assessment

From June 9 through 11, 2024, groundwater samples were collected from the groundwater monitoring culvert and four (4) electrical utility vaults, and a groundwater monitoring event was complete for the six (6) groundwater monitoring wells.

The results of the groundwater assessment are as follows:

6.1.2.1 Groundwater Monitoring Culvert

- DRO was reported between the laboratory RL and the laboratory MDL in the groundwater sample collected from the groundwater monitoring culvert at an estimated concentration of 230 µg/L, below the Ecology MTCA Method A CUL of 500 µg/L.

- ORO was not reported at or above the laboratory RL in the groundwater sample collected from the groundwater monitoring culvert.

- Following sample collection, the culvert was not decommissioned as planned. The construction contractor required for casing removal was unavailable to complete the work during period June 9 through 11, 2024. The groundwater monitoring culvert will be decommissioned during the next transformer maintenance shutdown anticipated to occur in second quarter 2025.

6.1.2.2 Electrical Utility Vaults

- DRO and ORO were not reported at or above the laboratory RL in the groundwater samples collected from the electrical utility vaults.

6.1.2.3 Groundwater Monitoring Event

- DRO was reported between the laboratory RL and the laboratory MDL in the groundwater sample collected from groundwater monitoring well MW-2R at an estimated concentration of 270 µg/L, below the Ecology MTCA Method A CUL of 500 µg/L.

  DRO was not reported at or above the laboratory RL in the remaining groundwater samples collected from the monitoring wells.

- ORO was not reported at or above the laboratory RL in the groundwater samples collected from the monitoring wells.

- During the June 2024 groundwater monitoring event, shallow groundwater flow direction at the Site was observed to be predominantly to the southwest with a calculated horizontal gradient of less than 0.01 ft/ft. The observed groundwater flow direction and horizontal gradient was generally consistent with that observed in previous monitoring events.

6.1.3 Terrestrial Ecological Evaluation

As requested by Ecology, an updated TEE was completed for the Site and a determination was made that the Site meets exclusion criteria WAC-173-340-7491(1)(b), *All soil contaminated with hazardous substances is, or will be, covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to the soil contamination.*

All soil contamination above Ecology MTCA Method A is located beneath a concrete containment area that surrounds GSU#1. The concrete structure will remain in place during current and future operation of the facility. Therefore, potential exposure pathways for terrestrial ecological receptors are not complete.

6.2 Conclusions

Based on the additional soil and assessment data and prior assessment data the following can be concluded:

- Soil is compliant with Ecology MTCA Method A CULs except for soil in the vicinity of soil sample D-8 located approximately 1.5 feet bgs beneath the current concrete containment area for GSU#1 and is well within the property boundaries;

- Groundwater quality is compliant with Ecology MTCA Method A CULs and the contaminant plume is defined to the property boundary; and

- The updated TEE determined that the Site meets exclusion criteria; and remaining soil contamination does not pose an unacceptable risk to human health or the environment under current land use and conditions.

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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.

TABLES

Table 1
Summary of Soil Assessment Analytical Results

Sample Location /Soil Boring ID	Sample ID	Depth (ft bgs)	Date	Ecology NWTPH-Dx (mg/kg)		
				Diesel	Oil	Mineral Oil
Transformer GSU#1 Spill Response (CCS 2011)						
South of GSU #1	SG-1	1.5	05/25/11	--	--	160
Southwest of SG-1	SG-2	2.1	05/25/11	--	--	ND
West of SG-1	SG-3	1.7	05/25/11	--	--	ND
West of GSU#1	D1	1.7	5/2011	--	--	261
West of GSU#1	D2	4.5	5/2011	--	--	123
West of GSU#1	D3	1.7	5/2011	--	--	516
West of GSU#1	D4	4.5	5/2011	--	--	516
West of GSU#1	D5	1.7	5/2011	--	--	182
West of GSU#1	D6	4.5	5/2011	--	--	196
West of GSU#1	D7	1.7	5/2011	--	--	579
West of GSU#1	D8	1.7	5/2011	--	--	**28,100**
West of GSU#1	D9	1.7	5/2011	--	--	1,170
West of GSU#1	D10	1.7	5/2011	--	--	2,000
Site Investigation (KTA/Cardno 2013)						
SB-1/MW-1	SB1-5-102813	4.0-5.0	10/28/13	<32	<130	--
SB-2/MW-2	SB2-6-102813	5.0-6.5	10/28/13	<30	<120	--
SB-3/MW-3	SB3-5-102913	3.5-5.5	10/29/13	<32	<130	--
Site Investigation (Cardno TEC 2015)						
SB-4/MW-4	SB4-5-040715	4.5-6.0	04/07/15	<6.8	<14	<14
SB-4 / MW-4 (Dup)	SBDUP-01-040715	4.5-6.0	04/07/15	<6.3	<12	<12
SB-5/MW-5	SB5-5-040815	4.5-6.0	04/08/15	6.7	<12	<12
SB-6/MW-6	SB6-4040815	3.5-5.0	04/08/15	<6.3	<13	<13
Transformer GSU#3 Spill Response (CCS 2013)						
GSU #3 Area	#1	4	12/17/13	ND	ND	ND
GSU #3 Area	#2	4	12/17/13	ND	ND	ND
GSU #3 Area	#3	4	12/17/13	ND	ND	ND
GSU #3 Area	#4	4	12/17/13	ND	ND	ND
GSU #3 Area	#5	4	12/17/13	ND	ND	ND
GSU #3 Area	#6	4	12/17/13	ND	ND	ND
GSU #3 Area	#7	4	12/17/13	248	ND	ND
GSU #3 Area	#8	4	12/17/13	ND	ND	ND
GSU #3 Area	#9	4	12/17/13	ND	ND	ND
GSU #3 Area	#10	4	12/17/13	124	ND	ND
GSU #3 Area	#11	4	12/17/13	ND	ND	ND
GSU #3 Area	#12	4	12/17/13	120	ND	ND
GSU #3 Area	#13	4	12/17/13	103	ND	ND
GSU #3 Area	#14	4	12/17/13	622	ND	ND
GSU #3 Area	#15	4	12/17/13	684	ND	ND
Pond Area	#1	4	12/23/13	--	--	ND
Pond Area	#2	4	12/23/13	--	--	ND
Pond Area	#3	4	12/23/13	--	--	ND
Pond Area	#4	4	12/23/13	--	--	ND

Table 1
Summary of Soil Assessment Analytical Results

Sample Location /Soil Boring ID	Sample ID	Depth (ft bgs)	Date	Ecology NWTPH-Dx (mg/kg)		
				Diesel	Oil	Mineral Oil
Pond Area	#5	4	12/23/13	--	--	ND
Pond Area	#6	4	12/23/13	--	--	ND
Pond Area	#7	4	12/23/13	--	--	ND
Pond Area	#8	4	12/23/13	--	--	ND
Pond Area	#9	4	12/23/13	--	--	ND
Pond Area	#10	4	12/23/13	--	--	ND
Pond Area	#11	4	12/23/13	--	--	ND
Pond Area	#12	4	12/23/13	--	--	ND
Ditch Line	#1	4	12/23/13	--	--	ND
Ditch Line	#2	4	12/23/13	--	--	ND
Ditch Line	#3	4	12/23/13	--	--	ND
Ditch Line	#4	4	12/23/13	--	--	ND
Ditch Line	#5	4	12/23/13	--	--	ND
Ditch Line	#6	4	12/23/13	--	--	76.9
Roadway	#1	4	12/23/13	--	--	ND
Roadway	#2	4	12/23/13	--	--	ND
Roadway	#3	4	12/23/13	--	--	ND
Roadway	#4	4	12/23/13	--	--	ND
Roadway	#5	4	12/23/13	--	--	ND
Roadway	#6	4	12/23/13	--	--	ND
North Pond Ditch	#1	4	12/23/13	--	--	ND
North Pond Ditch	#2	4	12/23/13	--	--	ND
North Pond Ditch	#3	4	12/23/13	--	--	ND
North Pond Ditch	#4	4	12/23/13	--	--	128
North Pond Ditch	#5	4	12/23/13	--	--	ND
Additional Site Characterization (A&M 2024)						
SB-1	SB-1-1.6	1.6	06/09/24	<4.4	10.9 J	--
SB-1	SB-1-9	9	06/09/24	<4.4	<5.4	--
MW-2R	MW-2R-10	10	06/09/24	<4.7	<5.7	--
MW-2R	MW-2R-20	20	06/09/24	<4.3	<5.2	--
MTCA Method A Soil Cleanup Levels for Unrestricted Land Uses[a]				2,000	2,000	4,000

Notes:

Ecology - Washington Department of Ecology

mg/kg - Milligrams per kilogram

ft bgs - Feet below ground surface

-- - Not analyzed

RRO - Residual Range Organics

< - Not detected at, or above, the laboratory reporting limit (RL)

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

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

Bold value indicates exceedence of MTCA Method A soil cleanup level.

[a] Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land uses are referenced from Table 740-1 in Ecology's November 2007 document *Model Toxics Control Act Cleanup Regulation, Chapter 173-340 WAC* .

Table 2
Groundwater Elevation Summary

Well Number/ TOC Elevation	Date	DTW (feet bgs)	DTP (feet bgs)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-1					
97.76	04/15/15	4.27	--	0.00	93.49
	07/08/15	5.22	--	0.00	92.54
	12/16/15	4.31	--	0.00	93.45
	03/22/16	3.53	--	0.00	94.23
240.59	06/09/24	4.20	--	0.00	236.39
MW-2R					
240.34	06/10/24	3.95	--	0.00	236.39
MW-3					
97.57	04/15/15	5.03	--	0.00	92.54
	07/08/15	5.27	5.26	0.01	92.31
	12/16/15	4.21	--	0.00	93.36
	03/22/16	3.98	--	0.00	93.59
240.40	06/09/24	4.26	--	0.00	236.14
MW-4					
97.64	04/15/15	4.90	--	0.00	92.74
	07/08/15	6.70	--	0.00	90.94
	12/16/15	4.34	--	0.00	93.30
	03/22/16	3.77	--	0.00	93.87
240.42	06/09/24	5.19	--	0.00	235.23
MW-5					
97.08	04/15/15	4.98	--	0.00	92.10
	07/08/15	6.70	--	0.00	90.38
	12/16/15	4.80	--	0.00	92.28
	03/22/16	4.02	--	0.00	93.06
239.94	06/09/24	5.35	--	0.00	234.59
MW-6					
96.18	04/15/15	5.07	--	0.00	91.11
	07/08/15	7.39	--	0.00	88.79
	12/16/15	5.38	--	0.00	90.80
	03/22/16	4.30	--	0.00	91.88
239.01	06/09/24	5.46	--	0.00	233.55

Notes:

TOC - Top of casing

SWL - Static water level

DTW - Depth to water

DTP - Depth to product

Wells initially surveyed relative to the southwest corner of GSU-1 containment wall in April 2015.

Wells resurveyed to NAVD 88 on June 10, 2024 following installation of well MW-2R.

Table 3
Summary of Groundwater Monitoring Culvert and Electrical Utility Vault Groundwater Analytical Results

Location	Sample ID	Sample Date	Ecology Method NWTPH-Dx		
			DRO (µg/L)	ORO (µg/L)	Mineral Oil (µg/L)
Groundwater Monitoring Culvert	Culvert	06/09/24	230 J	<250	--
EMHC-001	EMHC-001-Vault	04/07/15	**1,900**	320	**1,300**
	EMHC-001	06/09/24	<160	<250	--
EMHC-002	EMHC-002-Vault	04/07/15	110	<200	<200
	DUP-Vault	04/07/15	110	<200	<200
	EMHC-002	06/09/24	<150	<240	--
EMHM-003	EMHM-003-Vault	04/07/15	120	<200	<200
	EMHM-003	06/09/24	<140	<230	--
EMHC-003	EMHC-003-Vault	04/07/15	<100	<200	<200
	EMHC-003	06/09/24	<140	<230	--
MTCA Method A Cleanup Levels [a]			500	500	500

Notes:

µg/L - Micrograms per liter

Concentrations exceeding Model Toxics Control Act (MTCA) Method A cleanup levels are **bolded**.

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

Shaded value indicates analyte reported above the laboratory method reporting limit.

[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.

Table 4
Summary of Monitoring Well Groundwater Analytical Results

Well ID	Sample ID	Sample Date	Ecology Method NWTPH-Dx		
			DRO (µg/L)	ORO (µg/L)	Mineral Oil (µg/L)
MW-1	MW-1	04/15/15	120	<200	<200
	MW-1	07/08/15	<100	<200	<200
	Dup-GW	07/08/15	<100	<200	<200
	MW-1	12/16/15	<100	<200	<200
	MW-1	03/22/16	<100	<200	<200
	DUP-GW	03/22/16	<100	<200	<200
	MW-1	06/10/24	<150	<240	NA
MW-2R	MW-2R	06/11/24	270 J	<300	--
MW-3	MW-3	04/15/15	<100	<200	<200
	MW-3	07/08/15	<100	<200	<200
	MW-3	12/16/15	<100	<200	<200
	MW-3	03/22/16	<100	<200	<200
	MW-3	06/10/24	<140	<230	--
MW-4	MW-4	04/15/15	<100	<200	<200
	Dup-GW	04/15/15	<100	<200	<200
	MW-4	07/08/15	<100	<200	<200
	MW-4	12/16/15	<100	<200	<200
	MW-4	03/22/16	<100	<200	<200
	MW-4	06/10/24	<170	<280	--
MW-5	MW-5	04/15/15	<100	<200	<200
	MW-5	07/08/15	<100	<200	<200
	MW-5	12/16/15	<100	<200	<200
	Dup-GW	12/16/15	<100	<200	<200
	MW-5	03/22/16	<100	<200	<200
	MW-5	06/10/24	<140	<230	--
MW-6	MW-6	04/15/15	<100	<200	<200
	MW-6	07/08/15	<100	<200	<200
	MW-6	12/16/15	<100	<200	<200
	MW-6	03/22/16	<100	<200	<200
	MW-6	06/10/24	<140	<230	--
MTCA Method A Cleanup Levels [a]			500	500	500

Notes:

USEPA - United States Environmental Protection Agency

µg/L - Micrograms per liter

Concentrations exceeding Model Toxics Control Act (MTCA) Method A cleanup levels are **bolded**.

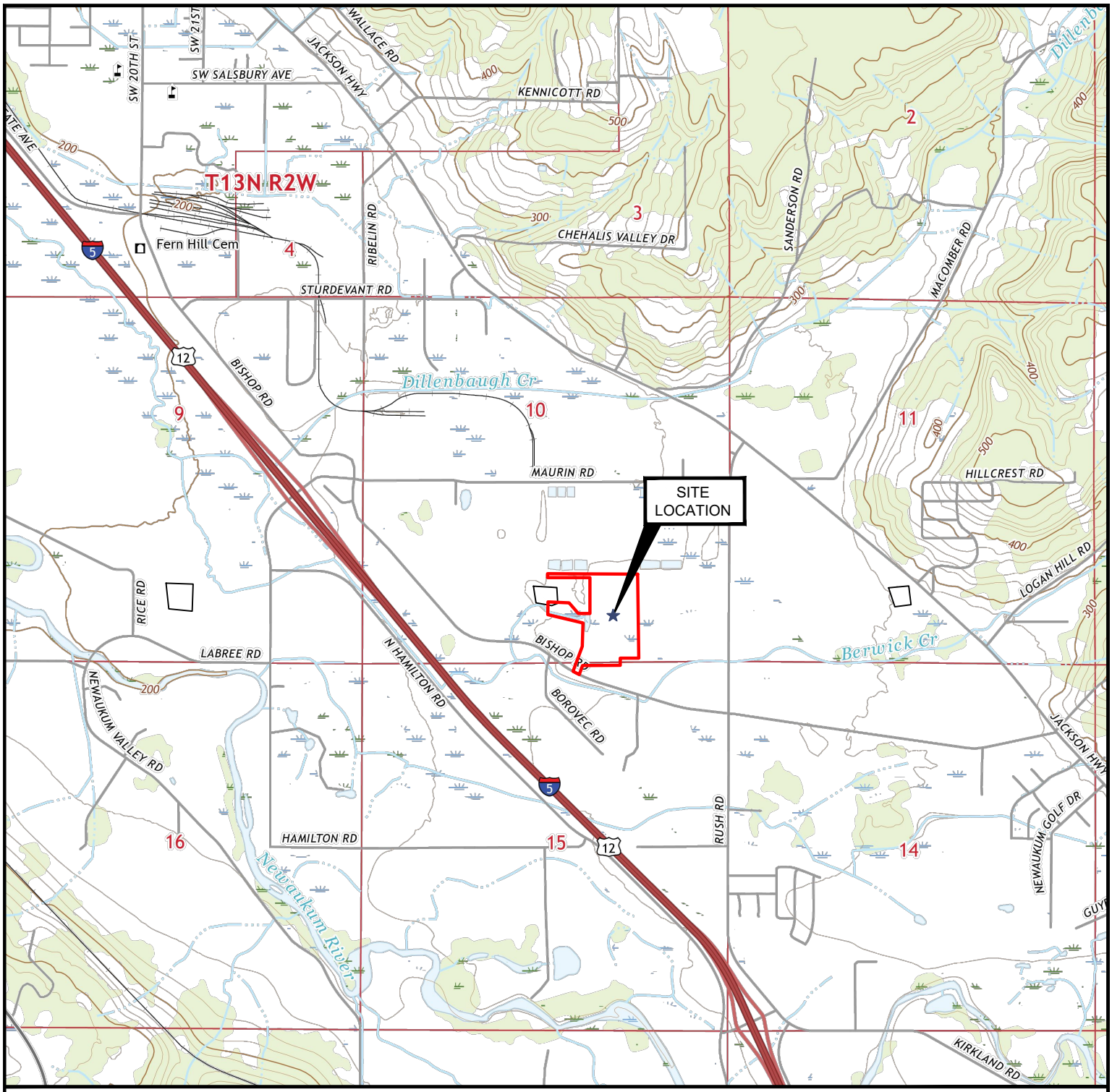
< - Not reported at, or above, the indicated laboratory reporting limit.

Shaded value indicates analyte reported above the laboratory method reporting limit.

J - Estiamted concentration abve the adjusted method detection limit and below the adjusted reporting limit.

[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.

FIGURES



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, CENTRALIA, WASHINGTON AND NAPAVINE, WASHINGTON (2020)

Scale: 1"=2,000

N

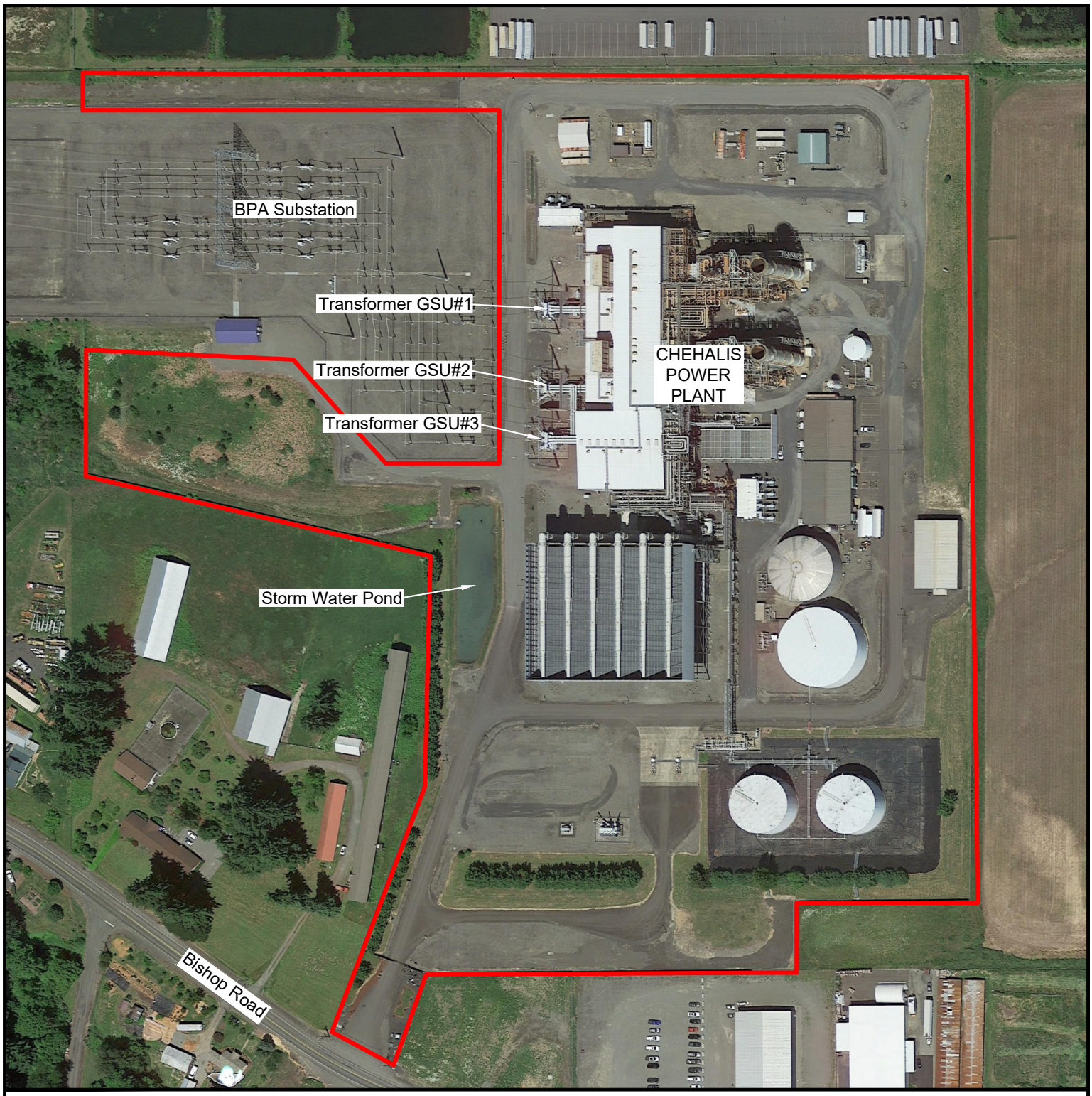
0 1,000 2,000 4,000

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

SITE LOCATION MAP
CHEHALIS POWER PLANT

PACIFICORP ROCKY MOUNTAIN POWER
1813 BISHOP ROAD, CHEHALIS, WASHINGTON

SCALE:	DATE:	FIGURE NO.
AS SHOWN	7/8/24	1
APPROVED BY:	DRAWN BY:	PROJECT NO.
DJL	SRM	2064-0021



SOURCE: GOOGLE EARTH (2021)

LEGEND

Approximate Site Boundary

N

Scale: 1"=200'

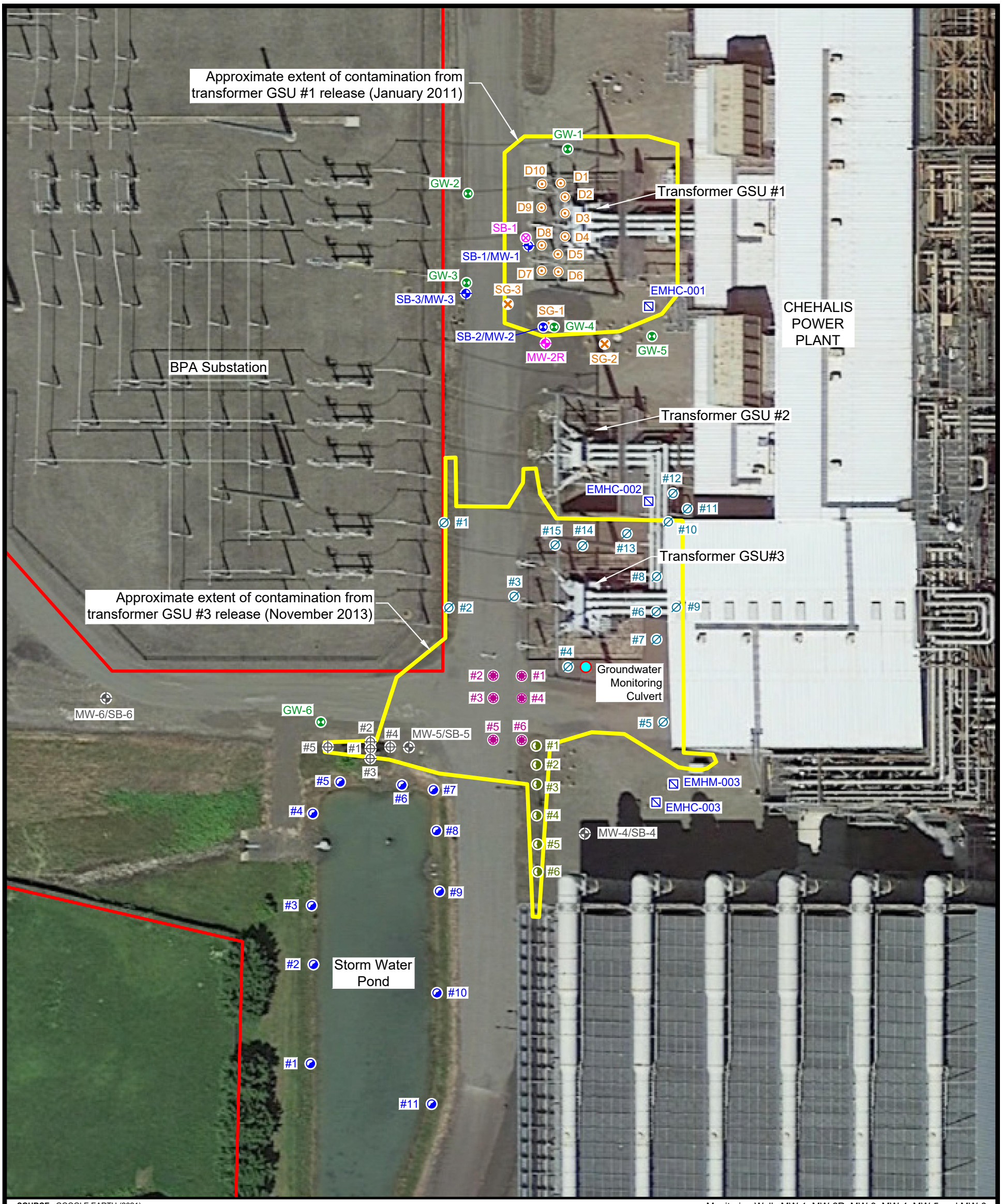
0 100 200 400

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

FACILITY MAP
CHEHALIS POWER PLANT

PACIFICORP ROCKY MOUNTAIN POWER
1813 BISHOP ROAD, CHEHALIS, WASHINGTON

SCALE:	DATE:	FIGURE NO.
AS SHOWN	7/8/24	2
APPROVED BY:	DRAWN BY:	PROJECT NO.
DJL	SRM	2064-0021



SOURCE: GOOGLE EARTH (2021)

Monitoring Wells MW-1, MW-2R, MW-3, MW-4, MW-5 and MW-6 were Surveyed by Foresight Surveying, Inc. on 6/10/24

LEGEND

MW-2R	Soil Boring (June 2024)		Groundwater Monitoring Culvert (January 2014)
SB-1	Soil Boring (June 2024)	#1	GSU #3 Area Soil Sample (December 2013)
SB-4/MW-4	Soil Boring (April 2015)	#1	Pond Area Soil Sample (December 2013)
SB-3/MW-3	Soil Boring (October 2013)	#1	Ditch Line Soil Sample (December 2013)
SG-1	GSU #3 Area Soil Sample (December 2013)	#1	Roadway Soil Sample (December 2013)
GW-1	Temporary Well (May 2011)	#1	North Pond Ditch Soil Sample (December 2013)
D1	GSU #1 Area Soil Sample (May 2011)		Approximate Property Boundary
EMHC-001	Electrical Vault		

N

Scale: 1"=50'

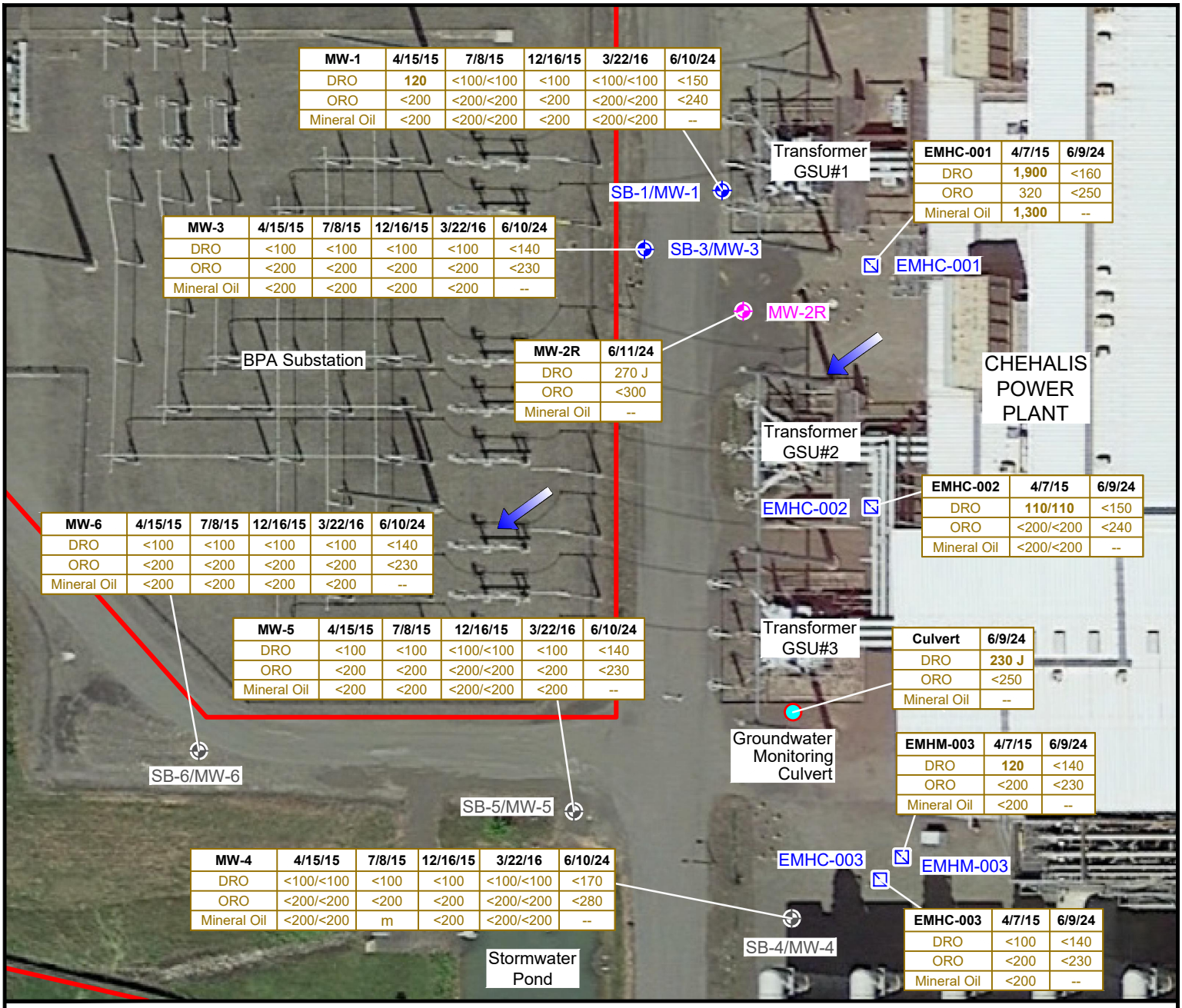
0 25 50 100

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

SITE DETAIL MAP
CHEHALIS POWER PLANT
PACIFICORP ROCKY MOUNTAIN POWER
1813 BISHOP ROAD, CHEHALIS, WASHINGTON

SCALE:	DATE:	FIGURE NO.
AS SHOWN	7/9/24	3
APPROVED BY:	DRAWN BY:	PROJECT NO.
DJL	SRM	2064-0021

f3_SiteDetailMap_r2



SOURCE: GOOGLE EARTH (2021)

Monitoring Wells MW-1, MW-2R, MW-3, MW-4, MW-5 and MW-6 were Surveyed by Foresight Surveying, Inc. on 6/10/24

LEGEND

DRO	Diesel Range Organics
ORO	Oil Range Organics
<100/<100	Primary and Duplicate Sample Results
--	Not Analyzed
J	Estimated Concentration
	Groundwater Monitoring Culvert (January 2014)
	Approximate Shallow Groundwater Flow Direction
MW-2R	Monitoring Well (June 2024)
SB-4/MW-4	Monitoring Well (April 2015)
SB-3/MW-3	Monitoring Well (October 2013)
EMHC-001	Electrical Vault

Analytical Results are in Micrograms per Liter (µg/L)

N

Scale: 1"=60'

0 30 60 120

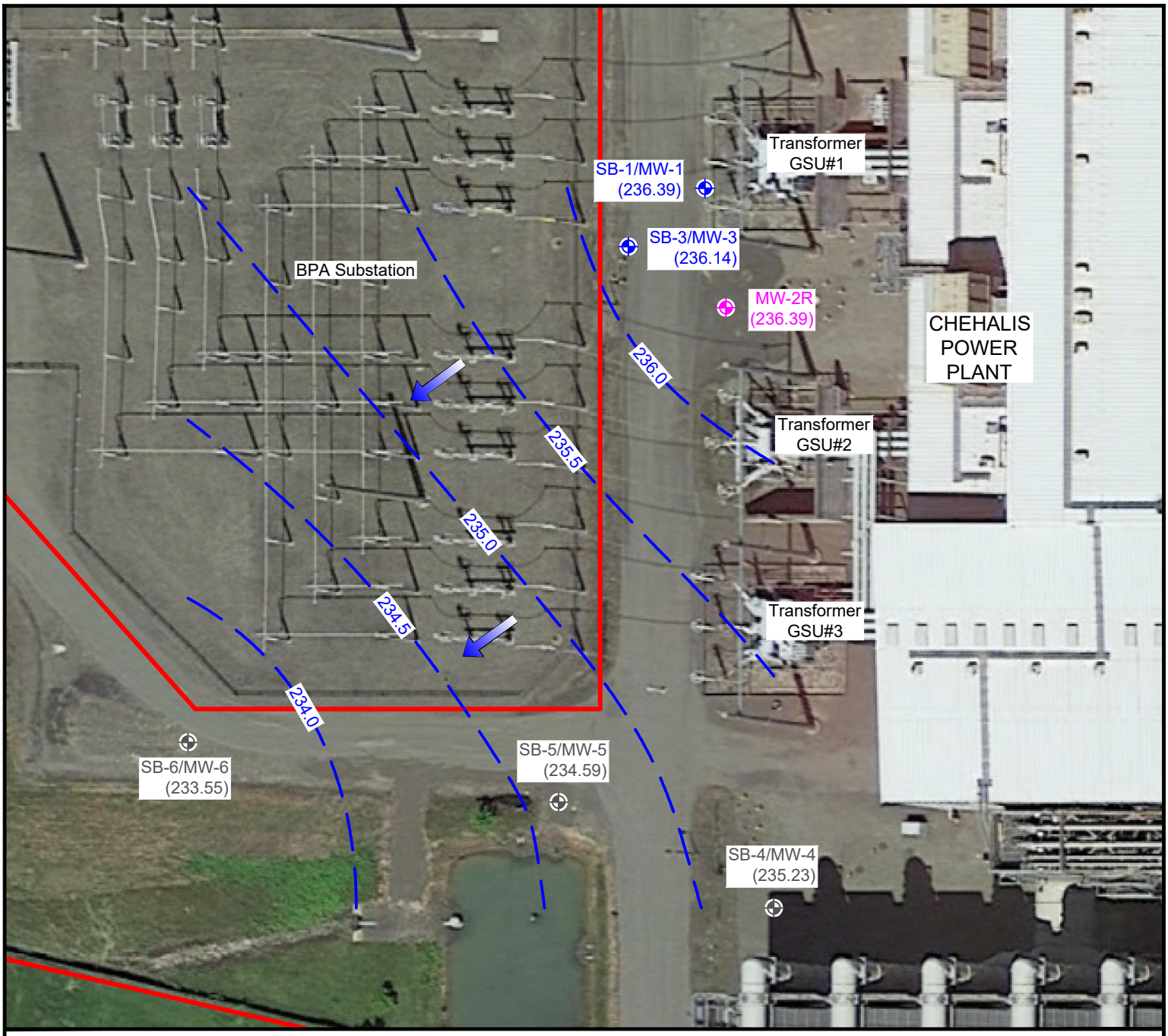
A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

GROUNDWATER ANALYTICAL RESULTS
CHEHALIS POWER PLANT

PACIFICORP ROCKY MOUNTAIN POWER
1813 BISHOP ROAD, CHEHALIS, WASHINGTON

SCALE:	DATE:	FIGURE NO.
AS SHOWN	7/10/24	4
APPROVED BY:	DRAWN BY:	PROJECT NO.
DJL	SRM	2064-0021

f4_GW Analytical 6-2024



SOURCE: GOOGLE EARTH (2021)

Monitoring Wells MW-1, MW-2R, MW-3, MW-4, MW-5 and MW-6 were Surveyed by Foresight Surveying, Inc. on 6/10/24

LEGEND

- 234.0 — Groundwater Elevation Contour (Feet Above MSL)
- (236.39) — Groundwater Elevation (Feet Above MSL)
- MW-2R — Monitoring Well (June 2024)
- SB-4/MW-4 — Monitoring Well (April 2015)
- SB-3/MW-3 — Monitoring Well (October 2013)
- Approximate Shallow Groundwater Flow Direction

N

Scale: 1"=60'

0 30 60 120

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

GROUNDWATER CONTOUR MAP (JUNE 2024)
CHEHALIS POWER PLANT

PACIFICORP ROCKY MOUNTAIN POWER
1813 BISHOP ROAD, CHEHALIS, WASHINGTON

SCALE:	DATE:	FIGURE NO.
AS SHOWN	7/10/24	5
APPROVED BY:	DRAWN BY:	PROJECT NO.
DJL	SRM	2064-0021

f5_GW Contour 6-2024

APPENDIX A
SOIL BORING LOGS

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

LOG OF BORING: MW-2R

Chehalis Power Plant
1813 Bishop Road
Chehalis, Washington

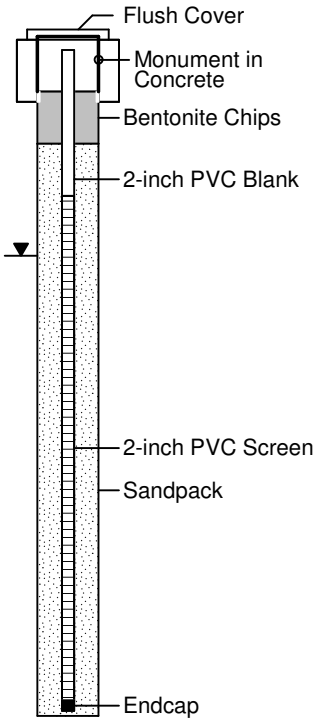
Project Number: 2064-0021

Date Started	: 6/9/24	Drilled By	: Steadfast
Date Completed	: 6/9/24	Sampling Method	: Grab
Boring Diameter	: 2.0-Inch	Reference Elev.	: Ground Surface
Total Depth	: 22.0 ft bgs	Logged By	: D. Seaver
Drilling Method	: Direct-Push Geoprobe	Checked By	: D. Landry

Water Levels
▼ Prior to Groundwater Sample

Boring Location
South of Transformer GSU#1

Well: MW-2R
Elevation: Ground Surface



Depth in Feet	Sample I.D.	Recovery (%)	USCS	GRAPHIC	DESCRIPTION
0					0.0-1.5 ft bgs - Gravel Fill.
1					
2			GP		1.5-7.0 ft bgs - Sandy GRAVEL: Medium brown; dense; dry.
3					
4					
5					
6					
7					
8			SM		7.0-22.0 ft bgs - Silty SAND: Medium brown; trace gravel; moist.
9					
10	MW-2R-10				
11					
12					
13					
14					
15					
16					
17					
18					
19					
20	MW-2R-20				
21					
22					Refusal at 22.0 ft bgs.
23					

ft bgs = feet below ground surface
ppm = parts per million
PID = photoionization detector

Notes:
2-inch Schedule 40 PVC blank (0.0-3.0 ft bgs and 13.0-22.0 ft bgs)
2-inch pre-pack 0.010-inch slotted screen (3.0-13.0 ft bgs)
Boring collapsed from 13.0 to 22.0 ft bgs.

06-20-2024

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

LOG OF BORING: MW-2R

Chehalis Power Plant
1813 Bishop Road
Chehalis, Washington

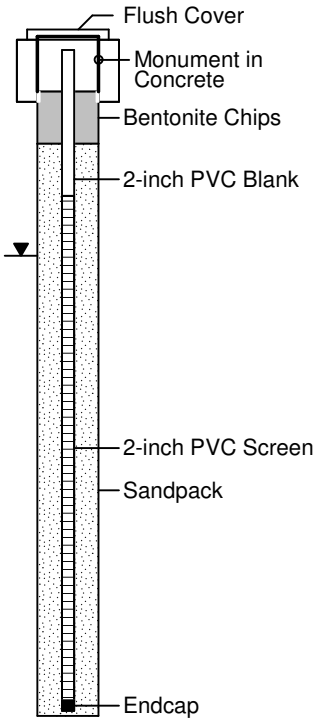
Project Number: 2064-0021

Date Started	: 6/9/24	Drilled By	: Steadfast
Date Completed	: 6/9/24	Sampling Method	: Grab
Boring Diameter	: 2.0-Inch	Reference Elev.	: Ground Surface
Total Depth	: 22.0 ft bgs	Logged By	: D. Seaver
Drilling Method	: Direct-Push Geoprobe	Checked By	: D. Landry

Water Levels
▼ Prior to Groundwater Sample

Boring Location
South of Transformer GSU#1

Well: MW-2R
Elevation: Ground Surface



Depth in Feet	Sample I.D.	Recovery (%)	USCS	GRAPHIC	DESCRIPTION
0					0.0-1.5 ft bgs - Gravel Fill.
1					
2			GP		1.5-7.0 ft bgs - Sandy GRAVEL: Medium brown; dense; dry.
3					
4					
5					
6					
7					
8			SM		7.0-22.0 ft bgs - Silty SAND: Medium brown; trace gravel; moist.
9					
10	MW-2R-10				
11					
12					
13					
14					
15					
16					
17					
18					
19					
20	MW-2R-20				
21					
22					Refusal at 22.0 ft bgs.
23					

ft bgs = feet below ground surface
ppm = parts per million
PID = photoionization detector

Notes:
2-inch Schedule 40 PVC blank (0.0-3.0 ft bgs and 13.0-22.0 ft bgs)
2-inch pre-pack 0.010-inch slotted screen (3.0-13.0 ft bgs)
Boring collapsed from 13.0 to 22.0 ft bgs.

06-20-2024

APPENDIX B
FIELD SAMPLING DATA SHEETS

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: MW-1

SITE ADDRESS: CHEHALIS, WA LABEL CODE: MW-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
6-9-24		2	/	~~5.02~~ 4.20	/

PUMP/INTAKE DEPTH (ft btoc): 12'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
11:14	4.50	0.5	6.77	15.9	1.68	165.4	267	5.52
11:18	4.64	0.9	6.79	15.8	1.43	160.4	270	5.34
11:22	4.67	1.3	6.80	15.9	1.41	159.6	271	5.71
11:24	4.68	1.7	6.80	15.9	1.40	158.9	270	5.48

GROUNDWATER SAMPLE DATA

Sample Date: 6-10-24

Sample Time: 12:50

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	~~HCl~~/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~ HCL		
Total Bottles		4				

Notes: SCREEN 4.5'-17'. ~~[illegible]~~. PUMPING @ 0.1 LPM (VERY SLOW RECOVERY) WITH DRAW DOWN.

Sampled By: STAN MURRAY Signature: [signature]

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: MW-2R

SITE ADDRESS: CHEHALIS, WA LABEL CODE: MW-2R

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
~~6-10-24~~ 6-10-24		2	✓	3.95	✓

PUMP/INTAKE DEPTH (ft btoc): 8'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
		✓	7.77	14.8	2.83	292	-267	122

GROUNDWATER SAMPLE DATA

Sample Date: 6-11-24

Sample Time: 0645

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	(HCl)/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~		
Total Bottles		4		1/LL		

6-10-24

Notes: FOLLOWING WELL DEV. WELL WAS SLIGHTLY SILTY. SLOW RECOVERY. WILL LET RECOVER OVERNIGHT & SAMPLE 6-11-24

Sampled By: STEVE MCCAY Signature: [signature]

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS DOWN PLANT WELL ID: MW-3

SITE ADDRESS: CHEHALIS, WA LABEL CODE: MW-3

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
6-9-24		2	✓	4.26	✓

PUMP/INTAKE DEPTH (ft btoc): 12

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
0830	4.58	1	6.47	13.5	6.21	85.9	292	6.51
0834	5.10	1.4	6.45	13.5	6.14	87.0	290	6.28
0838	5.55	1.8	6.45	13.6	6.11	87.2	291	6.24
0842	~~5.~~ 5.81	2.2	6.45	13.6	6.09	87.2	290	6.21

GROUNDWATER SAMPLE DATA

Sample Date: 6-10-24

Sample Time: 0845

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	HCl/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	HNO3		
Total Bottles		4				

Notes: DRAW DOWN @ 0.1 LPM (SLOWEST PUMP RATE)

Sampled By: STAVE McCAY Signature: Stave McCay

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: MW-4

SITE ADDRESS: CHEHALIS, WA LABEL CODE: MW-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
6-9-24		2	✓	5.19	✓

PUMP/INTAKE DEPTH (ft btoc): 15'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
0940	5.35	0.6	6.35	13.8	2.35	125.3	279	3.64
0946	5.35	1.2	6.37	13.5	2.37	124.1	280	3.55
0952	5.35	1.8	6.34	13.5	2.35	124.2	280	3.68
0958	5.35	2.4	6.34	13.5	2.36	124.1	280	3.51

GROUNDWATER SAMPLE DATA

Sample Date: 6-10-24

Sample Time: ~~1155~~ 1005

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	HCl/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	HNO3		
Total Bottles		4				

Notes: PUMP RATE 0.2 LPM W/ NO DRAW DOWN

Sampled By: STEVE MURRAY Signature: [signature]

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: MW-5

SITE ADDRESS: CHEHALIS, WA LABEL CODE:

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
6-9-24		2	✓	5.35	✓

PUMP/INTAKE DEPTH (ft btoc): 15'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1030	5.50	1.2	6.74	14.5	1.82	124.9	251	0.77
1032	5.50	2.0	6.76	14.4	1.83	125.4	249	0.68
1034	5.50	2.8	6.75	14.2	1.84	125.4	249	0.58
1036	5.50	3.6	6.77	14.2	1.84	125.5	249	0.65

GROUNDWATER SAMPLE DATA

Sample Date: 6-10-24

Sample Time: 1045

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	(HCl)/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~ (HCl)		
Total Bottles		4				

Notes: PUMPS @ 0.8 LPM W/ NO DRAW DOWN

Sampled By: STAN McCAY Signature:

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: MW-6

SITE ADDRESS: CHEHALIS, WA LABEL CODE: MW-6

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
6-9-24		2	—	5.46	—

PUMP/INTAKE DEPTH (ft btoc): 15'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1140	5.54	1	6.37	14.7	1.72	114.5	174	5.33
1144	5.58	1.8	6.39	15.0	1.61	115.3	174	5.10
1148	5.58	2.6	6.39	15.0	1.62	116.0	175	4.99
1152	5.58	3.0	6.39	15.0	1.63	116.2	175	5.21

GROUNDWATER SAMPLE DATA

Sample Date: 6-10-24

Sample Time: 1200

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	√	2	1 liter	(HCl)/None	NA	
~~Poly~~ AMBER	√	2	250 ml	~~HNO3~~ HCl		
Total Bottles		4				

Notes: PUMP RATE 0.2 LPM.

Sampled By: STAN MCCAY Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: CULVERT

SITE ADDRESS: CHEHALIS, WA LABEL CODE: CULVERT

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
6-9-24		3.5	—	7.10	—

PUMP/INTAKE DEPTH (ft btoc): 7.25'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1544	7.10	1	8.94	17.5	8.80	155.9	123	0.91
1546	√	2	8.21	17.7	7.65	156.1	124	0.77
1548	√	3	8.20	17.7	7.62	156.4	124	0.74
1550	√	4	8.19	17.7	7.64	156.6	124	0.78
					~~7.64~~			

GROUNDWATER SAMPLE DATA

Sample Date: 6-9-24

Sample Time: 1600

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	HCl/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~ HCl		
Total Bottles		4				

Notes: _____

Sampled By: STAN McCoy Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: VAULT EMHC-001

SITE ADDRESS: CHEHALIS, WA LABEL CODE: EMHC-001

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
6-9-24		MANHOLE		5.02	

PUMP/INTAKE DEPTH (ft btoc): 71

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1200	5.02	1	9.20	17.7	5.49	116.0	~~216~~ 207	1.46
1202	↓	2	9.19	17.6	5.50	101.7	197	1.45
1204		3	9.19	17.6	5.51	100.7	189	1.50
1206		4	9.2	17.6	5.50	100.2	192	1.44

GROUNDWATER SAMPLE DATA

Sample Date: 6-9-24

Sample Time: 1215

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	(HCl)/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~ ACL		
Total Bottles		4				

Notes: PUMP RATE 0.5 LPM. NO DRAW DOWN.

Sampled By: STEVE MCCAY Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: VAULT EMHC-002

SITE ADDRESS: CHEHALIS, WA LABEL CODE: EMHC-002

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
6-9-24		MANHOLE	✓	4.95	✓

PUMP/INTAKE DEPTH (ft btoc): 7'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1320	4.95	1	9.30	18.4	3.23	118.2	105	1.88
1322	↓	2	9.29	18.1	3.06	114.1	118	1.94
1324	↓	3	9.29	17.9	3.04	112.6	119	1.99
1326	↓	4	9.29	17.9	3.04	112.2	119	2.01

GROUNDWATER SAMPLE DATA

Sample Date: 6-9-24

Sample Time: 1335

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	(HCl)/None	NA	
~~Poly~~ AMBER	✓	2	250 ML	~~HNO3~~ HCL		
Total Bottles		4				

Notes: _____

Sampled By: STEVE MCCAY Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: VAULT EMHM-003

SITE ADDRESS: CHEHALIS, WA LABEL CODE: EMHM-003

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
6-9-24		MANHOLE	✓	8.40	✓

PUMP/INTAKE DEPTH (ft btoc): 10'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1426	8.40	1	7.60	14.9	6.84	91.4	221	4.25
1428	✓	2	6.49	14.8	7.54	89.9	222	
1430	✓	3	6.47	14.7	7.54	89.7	224	
1432	✓	4	6.45	14.7	7.54	89.6	224	

GROUNDWATER SAMPLE DATA

Sample Date: 6-9-24

Sample Time: 1440

Bottle Type	√	Amount	Volume	Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	~~HCl~~/None	NA	
~~Poly~~ AMBER	✓	2	250 ml	~~HNO3~~ HCl		
Total Bottles						

Notes: _____

Sampled By: STEVE MURRAY Signature: _____

FIELD SAMPLING DATA SHEET
LOW-FLOW GROUNDWATER SAMPLING

PROJECT NAME: CHEHALIS POWER PLANT WELL ID: VAULT EMHC-003

SITE ADDRESS: CHEHALIS, WA LABEL CODE: EMHC-003

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
~~6~~ 6-9-24		MANHOLE	✓	4.82	✓

PUMP/INTAKE DEPTH (ft btoc): 7'

WATER QUALITY DATA

Time	DTW	Liters	PH	Temp	DO	Spec. Cond.	Redox	Turb
1500	4.82	1	9.39	15.0	3.12	89.6	173	0.86
1502		2	9.29	14.9	3.30	87.8	174	0.71
1504	↓	3	9.29	14.9	3.34	86.6	174	0.64
1506	↓	4	9.29	14.9	3.36	86.4	174	0.50

GROUNDWATER SAMPLE DATA

Sample Date: 6-9-24

Sample Time: 1515

Bottle Type	√	Amount & Volume		Preservative	Filter	
VOA Glass			40 ml	HCl	NA	
Amber Glass	✓	2	1 liter	(HCl) None	NA	
~~Poly~~ AMBER	✓	2	250 mL	~~HNO3~~ HCL	✓	
Total Bottles						

Notes: _____

Sampled By: STEVE MURRAY Signature: _____

APPENDIX C
LABORATORY ANALYTICAL REPORTS

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

June 19, 2024

Dan Landry
A & M Engineering and Environmental Services, Inc.
1176 West 7th Avenue
Eugene, OR 97402

RE: Project: Chehalis Power Plant
Pace Project No.: 10696327

Dear Dan Landry:

Enclosed are the analytical results for sample(s) received by the laboratory on June 13, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Steve McCray, A & M Engineering and Environmental Services, Inc.

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

CERTIFICATIONS

Project: Chehalis Power Plant
Pace Project No.: 10696327

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
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
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
DoD Certification via A2LA #: 2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
ISO/IEC 17025 Certification via A2LA #: 2926.01
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 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 (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: 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
USDA Permit #: P330-19-00208

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

SAMPLE SUMMARY

Project: Chehalis Power Plant
Pace Project No.: 10696327

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10696327001	**CULVERT**	Water	06/09/24 16:00	06/13/24 08:50
10696327002	**MW-1**	Water	06/10/24 12:50	06/13/24 08:50
10696327003	**MW-2R**	Water	06/11/24 06:45	06/13/24 08:50
10696327004	**MW-3**	Water	06/10/24 08:45	06/13/24 08:50
10696327005	**MW-4**	Water	06/10/24 10:05	06/13/24 08:50
10696327006	**MW-5**	Water	06/10/24 10:45	06/13/24 08:50
10696327007	**MW-6**	Water	06/10/24 12:00	06/13/24 08:50
10696327008	**EMHC-001**	Water	06/09/24 12:15	06/13/24 08:50
10696327009	**EMHC-002**	Water	06/09/24 13:35	06/13/24 08:50
10696327010	**EMHM-003**	Water	06/09/24 14:40	06/13/24 08:50
10696327011	**EMHC-003**	Water	06/09/24 15:15	06/13/24 08:50

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

SAMPLE ANALYTE COUNT

Project: Chehalis Power Plant
Pace Project No.: 10696327

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10696327001	**CULVERT**	NWTPH-Dx	TT2	4	
10696327002	**MW-1**	NWTPH-Dx	TT2	4	
10696327003	**MW-2R**	NWTPH-Dx	TT2	4	
10696327004	**MW-3**	NWTPH-Dx	TT2	4	
10696327005	**MW-4**	NWTPH-Dx	TT2	4	
10696327006	**MW-5**	NWTPH-Dx	TT2	4	
10696327007	**MW-6**	NWTPH-Dx	TT2	4	
10696327008	**EMHC-001**	NWTPH-Dx	TT2	4	
10696327009	**EMHC-002**	NWTPH-Dx	TT2	4	
10696327010	**EMHM-003**	NWTPH-Dx	TT2	4	
10696327011	**EMHC-003**	NWTPH-Dx	TT2	4	

PASI-M = Pace Analytical Services - Minneapolis

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696327

Sample: CULVERT **Lab ID: 10696327001** Collected: 06/09/24 16:00 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**0.23J**	mg/L	0.53	0.16	1	06/15/24 08:24	06/18/24 17:31	68334-30-5	
Motor Oil Range	**<0.25**	mg/L	0.53	0.25	1	06/15/24 08:24	06/18/24 17:31		
Surrogates									
o-Terphenyl (S)	90	%.	50-150		1	06/15/24 08:24	06/18/24 17:31	84-15-1	
n-Triacontane (S)	86	%.	50-150		1	06/15/24 08:24	06/18/24 17:31		

Sample: MW-1 **Lab ID: 10696327002** Collected: 06/10/24 12:50 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.15**	mg/L	0.50	0.15	1	06/15/24 08:24	06/18/24 17:53	68334-30-5	
Motor Oil Range	**<0.24**	mg/L	0.50	0.24	1	06/15/24 08:24	06/18/24 17:53		
Surrogates									
o-Terphenyl (S)	98	%.	50-150		1	06/15/24 08:24	06/18/24 17:53	84-15-1	
n-Triacontane (S)	94	%.	50-150		1	06/15/24 08:24	06/18/24 17:53		

Sample: MW-2R **Lab ID: 10696327003** Collected: 06/11/24 06:45 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**0.27J**	mg/L	0.62	0.18	1	06/15/24 08:24	06/18/24 18:04	68334-30-5	
Motor Oil Range	**<0.30**	mg/L	0.62	0.30	1	06/15/24 08:24	06/18/24 18:04		
Surrogates									
o-Terphenyl (S)	86	%.	50-150		1	06/15/24 08:24	06/18/24 18:04	84-15-1	
n-Triacontane (S)	82	%.	50-150		1	06/15/24 08:24	06/18/24 18:04		

Sample: MW-3 **Lab ID: 10696327004** Collected: 06/10/24 08:45 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.14**	mg/L	0.48	0.14	1	06/15/24 08:24	06/18/24 18:14	68334-30-5	
Motor Oil Range	**<0.23**	mg/L	0.48	0.23	1	06/15/24 08:24	06/18/24 18:14		
Surrogates									
o-Terphenyl (S)	97	%.	50-150		1	06/15/24 08:24	06/18/24 18:14	84-15-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696327

Sample: MW-3 **Lab ID: 10696327004** Collected: 06/10/24 08:45 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Surrogates									
n-Triacontane (S)	93	%.	50-150		1	06/15/24 08:24	06/18/24 18:14		

Sample: MW-4 **Lab ID: 10696327005** Collected: 06/10/24 10:05 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.17**	mg/L	0.59	0.17	1	06/15/24 08:24	06/18/24 18:25	68334-30-5	
Motor Oil Range	**<0.28**	mg/L	0.59	0.28	1	06/15/24 08:24	06/18/24 18:25		
Surrogates									
o-Terphenyl (S)	83	%.	50-150		1	06/15/24 08:24	06/18/24 18:25	84-15-1	
n-Triacontane (S)	79	%.	50-150		1	06/15/24 08:24	06/18/24 18:25		

Sample: MW-5 **Lab ID: 10696327006** Collected: 06/10/24 10:45 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.14**	mg/L	0.48	0.14	1	06/15/24 08:24	06/18/24 18:36	68334-30-5	
Motor Oil Range	**<0.23**	mg/L	0.48	0.23	1	06/15/24 08:24	06/18/24 18:36		
Surrogates									
o-Terphenyl (S)	84	%.	50-150		1	06/15/24 08:24	06/18/24 18:36	84-15-1	
n-Triacontane (S)	82	%.	50-150		1	06/15/24 08:24	06/18/24 18:36		

Sample: MW-6 **Lab ID: 10696327007** Collected: 06/10/24 12:00 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.14**	mg/L	0.48	0.14	1	06/15/24 08:24	06/18/24 18:47	68334-30-5	
Motor Oil Range	**<0.23**	mg/L	0.48	0.23	1	06/15/24 08:24	06/18/24 18:47		
Surrogates									
o-Terphenyl (S)	86	%.	50-150		1	06/15/24 08:24	06/18/24 18:47	84-15-1	
n-Triacontane (S)	92	%.	50-150		1	06/15/24 08:24	06/18/24 18:47		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696327

Sample: EMHC-001 **Lab ID: 10696327008** Collected: 06/09/24 12:15 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.16**	mg/L	0.53	0.16	1	06/15/24 08:24	06/18/24 18:58	68334-30-5	
Motor Oil Range	**<0.25**	mg/L	0.53	0.25	1	06/15/24 08:24	06/18/24 18:58		
Surrogates									
o-Terphenyl (S)	82	%.	50-150		1	06/15/24 08:24	06/18/24 18:58	84-15-1	
n-Triacontane (S)	90	%.	50-150		1	06/15/24 08:24	06/18/24 18:58		

Sample: EMHC-002 **Lab ID: 10696327009** Collected: 06/09/24 13:35 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.15**	mg/L	0.50	0.15	1	06/15/24 08:24	06/18/24 19:09	68334-30-5	
Motor Oil Range	**<0.24**	mg/L	0.50	0.24	1	06/15/24 08:24	06/18/24 19:09		
Surrogates									
o-Terphenyl (S)	79	%.	50-150		1	06/15/24 08:24	06/18/24 19:09	84-15-1	
n-Triacontane (S)	85	%.	50-150		1	06/15/24 08:24	06/18/24 19:09		

Sample: EMHM-003 **Lab ID: 10696327010** Collected: 06/09/24 14:40 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.14**	mg/L	0.48	0.14	1	06/15/24 08:24	06/18/24 19:20	68334-30-5	
Motor Oil Range	**<0.23**	mg/L	0.48	0.23	1	06/15/24 08:24	06/18/24 19:20		
Surrogates									
o-Terphenyl (S)	79	%.	50-150		1	06/15/24 08:24	06/18/24 19:20	84-15-1	
n-Triacontane (S)	84	%.	50-150		1	06/15/24 08:24	06/18/24 19:20		

Sample: EMHC-003 **Lab ID: 10696327011** Collected: 06/09/24 15:15 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<0.14**	mg/L	0.48	0.14	1	06/15/24 08:24	06/18/24 19:31	68334-30-5	
Motor Oil Range	**<0.23**	mg/L	0.48	0.23	1	06/15/24 08:24	06/18/24 19:31		
Surrogates									
o-Terphenyl (S)	85	%.	50-150		1	06/15/24 08:24	06/18/24 19:31	84-15-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696327

Sample: EMHC-003 **Lab ID: 10696327011** Collected: 06/09/24 15:15 Received: 06/13/24 08:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510C Pace Analytical Services - Minneapolis								
Surrogates									
n-Triacontane (S)	91	%.	50-150		1	06/15/24 08:24	06/18/24 19:31		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Chehalis Power Plant
Pace Project No.: 10696327

QC Batch: 951513
QC Batch Method: EPA 3510C
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS LV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10696327001, 10696327002, 10696327003, 10696327004, 10696327005, 10696327006, 10696327007, 10696327008, 10696327009, 10696327010, 10696327011

METHOD BLANK: 4976651 Matrix: Water
Associated Lab Samples: 10696327001, 10696327002, 10696327003, 10696327004, 10696327005, 10696327006, 10696327007, 10696327008, 10696327009, 10696327010, 10696327011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	<0.12	0.40	0.12	06/18/24 16:58	
Motor Oil Range	mg/L	<0.19	0.40	0.19	06/18/24 16:58	
n-Triacontane (S)	%.	102	50-150		06/18/24 16:58	
o-Terphenyl (S)	%.	106	50-150		06/18/24 16:58	

LABORATORY CONTROL SAMPLE & LCSD: 4976652 4976653

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	2.1	2.0	103	101	50-150	2	20	
Motor Oil Range	mg/L	2	2.2	2.1	108	107	50-150	0	20	
n-Triacontane (S)	%.				113	106	50-150			
o-Terphenyl (S)	%.				113	110	50-150			

SAMPLE DUPLICATE: 4976654

Parameter	Units	10696327001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.23J	0.22J		30	
Motor Oil Range	mg/L	<0.25	<0.24		30	
n-Triacontane (S)	%.	86	95			
o-Terphenyl (S)	%.	90	94			

SAMPLE DUPLICATE: 4976655

Parameter	Units	10696327011 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	<0.14	<0.14		30	
Motor Oil Range	mg/L	<0.23	<0.23		30	
n-Triacontane (S)	%.	91	71			
o-Terphenyl (S)	%.	85	72			

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
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Chehalis Power Plant
Pace Project No.: 10696327

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 952019

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Chehalis Power Plant
Pace Project No.: 10696327

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10696327001	**CULVERT**	EPA 3510C	951513	NWTPH-Dx	952019
10696327002	**MW-1**	EPA 3510C	951513	NWTPH-Dx	952019
10696327003	**MW-2R**	EPA 3510C	951513	NWTPH-Dx	952019
10696327004	**MW-3**	EPA 3510C	951513	NWTPH-Dx	952019
10696327005	**MW-4**	EPA 3510C	951513	NWTPH-Dx	952019
10696327006	**MW-5**	EPA 3510C	951513	NWTPH-Dx	952019
10696327007	**MW-6**	EPA 3510C	951513	NWTPH-Dx	952019
10696327008	**EMHC-001**	EPA 3510C	951513	NWTPH-Dx	952019
10696327009	**EMHC-002**	EPA 3510C	951513	NWTPH-Dx	952019
10696327010	**EMHM-003**	EPA 3510C	951513	NWTPH-Dx	952019
10696327011	**EMHC-003**	EPA 3510C	951513	NWTPH-Dx	952019

Pace® Location Requested (City/State):
Pace Analytical Minnesota
1700 Elm Street, Suite 200
Minneapolis, MN 55414

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

WO# : 10696327

10696327

Company Name:	A & M Engineering and Environmental Services, Inc.	Contact/Report To:	Dan Landry
Street Address:	1176 West 7th Avenue, Eugene, OR 97402	Phone #:	(541)743-2600
		E-Mail:	dlandry@aandmengineering.com
		Cc E-Mail:	
Customer Project #:			
Project Name:	Chehalis, WA	Invoice To:	Accounts Payable
		Invoice E-Mail:	ap@aandmengineering.com
Site Collection Info/Facility ID (as applicable):	CHEHALIS POWER PLANT	Purchase Order # (if applicable):	
		Quote #:	00155533
Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET		County / State origin of sample(s):	Washington

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size ** : 3 | | 1 | | | | | | | |

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

Identify Container Preservative Type*** : | | | | | | | | | |

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Analysis Requested

Lab Use Only: Proj. Mgr: Jennifer Gross; AcctNum / Client ID:; Table #:; Profile / Template: 32819; Prelog / Bottle Ord. ID: EZ 3117920

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	NWTPH-Dx (5 day)	PFAS ID NPW	WA-EPH (HOLD)	Sample Comment	Preservation non-conformance identified for sample.
CULVERT	GW	G	~~6-9-24~~		6-9-24	1600	4			X		X	01	

Additional Instructions from Pace®:

Collected By: (Printed Name) STEVE MCCRAY

Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	T9 T1	-0.2, True	1.1,2.8,4.8,2.0	0.9,2.6,4.6,2.0	Y

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
[signature] / A+M	6-11-24 / 0830	[signature] / Pace	6/13/24 850	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 2

Page 1 of 1

Pace® Location Requested (City/State):
Pace Analytical Minnesota
1700 Elm Street, Suite 200
Minneapolis, MN 55414

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	A & M Engineering and Environmental Services, Inc.	Contact/Report To:	Dan Landry
Street Address:	1176 West 7th Avenue, Eugene, OR 97402	Phone #:	(541)743-2600
		E-Mail:	dlandry@aandmengineering.com
		Cc E-Mail:	
Customer Project #:			
Project Name:	Chehalis, WA	Invoice To:	Accounts Payable
		Invoice E-Mail:	ap@aandmengineering.com
Site Collection Info/Facility ID (as applicable):	CHEHALIS POWER PLANT	Purchase Order # (if applicable):	
		Quote #:	00155533
Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET		County / State origin of sample(s):	Washington

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Specify Container Size **: 3 | 1

Identify Container Preservative Type***:

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only:
Proj. Mgr: Jennifer Gross
AcctNum / Client ID:
Table #:
Profile / Template: 32819
Prelog / Bottle Ord. ID: EZ 3117920

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	NWTPH-Dx (5 day)	PFAS ID NPW	WA-EPH (HOLD)	Sample Comment
MW-1	GW	G			6-10-24	1250	4			X		X	02
MW-2R					6-10-24	~~0845~~				X		X	03
MW-3						0845				X		X	04
MW-4						1005				X		X	05
MW-5						1045				X		X	06
MW-6						1200				X		X	07
EMHC-001					6-9-24	1215				X		X	08
EMHC-002					6-9-24	1335				X		X	09
EMHM-003					6-9-24	1440				X		X	10
EMHC-003					6-9-24	1515				X		X	11

Additional Instructions from Pace®:

Collected By:
(Printed Name) STEVE McCRAY
Signature:

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
1	T1	-0.2, True	1.1, 7.8, 4.8, 2.0	0.9, 7.6, 4.6, 2.0	Y

	Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
1	Steve McCray / A+M	6-11-24 / 08:30		6/13/24 850
2				
3				
4				

Tracking Number:

Delivered by: [ ] In-Person [ ] Courier [ ] FedEx [ ] UPS [ ] Other

Page: 2 of 2

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: A&M Engineering and Environmental **PROJECT #:**

WO#: 10696327
PM: JMG Due Date: 06/27/24
CLIENT: A&M Engineer

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 715161154444 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☑ YES ☐ NO **Seals Intact:** ☑ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☑ N/A

Packing Material: ☐ Bubble Bags ☐ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☑ YES ☐ NO **Type of Ice:** ☐ Blue ☐ Dry ☑ Wet ☐ Melted ☐ None

Thermometer: ☑ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☑ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☑ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☑ N/A
Correction Factor: -0.2 **Cooler Temp Read w/Temp Blank:** 1.1 °C **Cooler Temp Corrected w/Temp Blank:** 0.9 °C	**Average Corrected Temp (no Temp Blank Only):** _____ °C
***NOTE:** Temp should be above freezing to 6°C.*	☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container
USDA Regulated Soil: ☑ N/A – Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** JMW 6/13/24
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☑ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☑ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☑ MINNEAPOLIS ☐ VIRGINIA	**YES**	**NO**	**N/A**	**COMMENT(S)**
Chain of Custody Present and Filled Out?	☑	☐		1.
Chain of Custody Relinquished?	☑	☐		2.
Sampler Name and/or Signature on COC?	☑	☐	☐	3.
Samples Arrived within Hold Time?	☑	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☑		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☐	☑		6.
Sufficient Sample Volume?	☑	☐		7.
Correct Containers Used? – Pace Containers Used?	☑ ☑	☐ ☐	☐	8.
Containers Intact?	☑	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☑	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☑ Water ☐ Other	☑	☐		11. **If NO, write ID/Date/Time of container below:** Time on MW-2R containers is 0645 ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☑	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☑	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☐	☐	☑	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #**
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
				☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?	☐	☐	☑	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☑	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☑	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☑	15.
Trip Blank Custody Seals Present?	☐	☐	☑	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:** 6/14/24

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: JMW **Line:** 9

Workorder #: 10696327 (JMG 6/14/24)

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? ☐ YES ☐ NO

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

Multiple Cooler Project? ☐ YES ☐ NO

If anything is OVER 6.0°C, you MUST document containers in this section HERE

Tracking Number	Temperature
7151 6115 4455	2.6
7151 6115 4466	4.6
7151 6115 4477, received 6/12/24 @ 856	2.0 T2

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition? YES	In Compliance After Addition? NO	Initials
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	

Comments:

Pace® Location Requested (City/State):
Pace Analytical Minnesota
1700 Elm Street, Suite 200
Minneapolis, MN 55414

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

Company Name:	A & M Engineering and Environmental Services, Inc.	Contact/Report To:	Dan Landry
Street Address:	1176 West 7th Avenue, Eugene, OR 97402	Phone #:	(541)743-2600
		E-Mail:	dlandry@aandmengineering.com
		Cc E-Mail:	
Customer Project #:			
Project Name:	Chehalis, WA	Invoice To:	Accounts Payable
		Invoice E-Mail:	ap@aandmengineering.com
Site Collection Info/Facility ID (as applicable):	CHEHALIS POWER PLANT	Purchase Order # (if applicable):	
		Quote #:	00155533
Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET		County / State origin of sample(s):	Washington

Data Deliverables: [X] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Specify Container Size **: 3 | 1

Identify Container Preservative Type***:

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only: Proj. Mgr: Jennifer Gross; AcctNum / Client ID:; Table #:; Profile / Template: 32819; Prelog / Bottle Ord. ID: EZ 3117920

Preservation non-conformance identified for sample.

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	NWTPH-Dx (5 day)	PFAS ID NPW	WA-EPH (HOLD)	Sample Comment
MW-1	GW	G			6-10-24	1250	4			X		X	02
MW-2R					6-11-24	06:45				X		X	03
MW-3					6-10-24	0845				X		X	04
MW-4						1005				X		X	05
MW-5						1045				X		X	06
MW-6						1200				X		X	07
EMHC-001					6-9-24	1215				X		X	08
EMHC-002					6-9-24	1335				X		X	09
EMHM-003					6-9-24	1440				X		X	10
EMHC-003					6-9-24	1515				X		X	11

Correction: Steve McCray 6-14-24

Additional Instructions from Pace®:

Collected By: (Printed Name) STEVE MCCRAY

Signature: Steve McCray

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
1	T1	-0.2, True	1.3, 4.8, 4.2.0	0.9, 2.6, 4.6, 2.0	Y

Relinquished by/Company: (Signature) Steve McCray / A+M	Date/Time: 6-12-24 / 08:30	Received by/Company: (Signature)	Date/Time: 6/13/24 850	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 2

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

June 19, 2024

Dan Landry
A & M Engineering and Environmental Services, Inc.
1176 West 7th Avenue
Eugene, OR 97402

RE: Project: Chehalis Power Plant
Pace Project No.: 10696433

Dear Dan Landry:

Enclosed are the analytical results for sample(s) received by the laboratory on June 13, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Steve McCray, A & M Engineering and Environmental Services, Inc.

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

CERTIFICATIONS

Project: Chehalis Power Plant
Pace Project No.: 10696433

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
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
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
DoD Certification via A2LA #: 2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
ISO/IEC 17025 Certification via A2LA #: 2926.01
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 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 (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: 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
USDA Permit #: P330-19-00208

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

SAMPLE SUMMARY

Project: Chehalis Power Plant
Pace Project No.: 10696433

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10696433001	**SB-1-1.6**	Solid	06/09/24 11:30	06/13/24 08:50
10696433002	**SB-1-9**	Solid	06/09/24 12:00	06/13/24 08:50
10696433003	**MW-2R-10**	Solid	06/09/24 13:10	06/13/24 08:50
10696433004	**MW-2R-20**	Solid	06/09/24 13:30	06/13/24 08:50

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SAMPLE ANALYTE COUNT

Project: Chehalis Power Plant
Pace Project No.: 10696433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10696433001	**SB-1-1.6**	NWTPH-Dx	TT2	4	
		ASTM D2974	BT	1	
10696433002	**SB-1-9**	NWTPH-Dx	TT2	4	
		ASTM D2974	BT	1	
10696433003	**MW-2R-10**	NWTPH-Dx	TT2	4	
		ASTM D2974	BT	1	
10696433004	**MW-2R-20**	NWTPH-Dx	TT2	4	
		ASTM D2974	BT	1	

PASI-M = Pace Analytical Services - Minneapolis

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696433

Sample: SB-1-1.6 **Lab ID: 10696433001** Collected: 06/09/24 11:30 Received: 06/13/24 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Microwave	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<4.4**	mg/kg	17.5	4.4	1	06/14/24 22:29	06/18/24 16:04	68334-30-5	
Motor Oil Range	**10.9J**	mg/kg	11.7	5.3	1	06/14/24 22:29	06/18/24 16:04		
Surrogates									
n-Triacontane (S)	91	%.	50-150		1	06/14/24 22:29	06/18/24 16:04		
o-Terphenyl (S)	90	%.	50-150		1	06/14/24 22:29	06/18/24 16:04	84-15-1	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**17.2**	%	0.10	0.10	1		06/16/24 10:11		N2

Sample: SB-1-9 **Lab ID: 10696433002** Collected: 06/09/24 12:00 Received: 06/13/24 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Microwave	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<4.4**	mg/kg	17.7	4.4	1	06/14/24 22:29	06/18/24 16:15	68334-30-5	
Motor Oil Range	**<5.4**	mg/kg	11.8	5.4	1	06/14/24 22:29	06/18/24 16:15		
Surrogates									
n-Triacontane (S)	92	%.	50-150		1	06/14/24 22:29	06/18/24 16:15		
o-Terphenyl (S)	90	%.	50-150		1	06/14/24 22:29	06/18/24 16:15	84-15-1	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**19.2**	%	0.10	0.10	1		06/16/24 10:13		N2

Sample: MW-2R-10 **Lab ID: 10696433003** Collected: 06/09/24 13:10 Received: 06/13/24 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Microwave	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<4.7**	mg/kg	18.9	4.7	1	06/14/24 22:29	06/18/24 16:26	68334-30-5	
Motor Oil Range	**<5.7**	mg/kg	12.6	5.7	1	06/14/24 22:29	06/18/24 16:26		
Surrogates									
n-Triacontane (S)	88	%.	50-150		1	06/14/24 22:29	06/18/24 16:26		
o-Terphenyl (S)	89	%.	50-150		1	06/14/24 22:29	06/18/24 16:26	84-15-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: Chehalis Power Plant
Pace Project No.: 10696433

Sample: MW-2R-10 **Lab ID: 10696433003** Collected: 06/09/24 13:10 Received: 06/13/24 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**21.1**	%	0.10	0.10	1		06/16/24 10:14		N2

Sample: MW-2R-20 **Lab ID: 10696433004** Collected: 06/09/24 13:30 Received: 06/13/24 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Microwave	Analytical Method: NWTPH-Dx Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Diesel Fuel Range	**<4.3**	mg/kg	17.1	4.3	1	06/14/24 22:29	06/18/24 16:37	68334-30-5	
Motor Oil Range	**<5.2**	mg/kg	11.4	5.2	1	06/14/24 22:29	06/18/24 16:37		
Surrogates									
n-Triacontane (S)	99	%.	50-150		1	06/14/24 22:29	06/18/24 16:37		
o-Terphenyl (S)	96	%.	50-150		1	06/14/24 22:29	06/18/24 16:37	84-15-1	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**14.4**	%	0.10	0.10	1		06/16/24 10:15		N2

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: Chehalis Power Plant
Pace Project No.: 10696433

QC Batch: 951553
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10696433001, 10696433002, 10696433003, 10696433004

SAMPLE DUPLICATE: 4976993

Parameter	Units	10696520001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.2	14.7	3	30	N2

SAMPLE DUPLICATE: 4976994

Parameter	Units	10696520011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.8	11.9	8	30	N2

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

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QUALITY CONTROL DATA

Project: Chehalis Power Plant
Pace Project No.: 10696433

QC Batch: 951451
QC Batch Method: EPA 3546
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS Microwave
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10696433001, 10696433002, 10696433003, 10696433004

METHOD BLANK: 4976001 Matrix: Solid
Associated Lab Samples: 10696433001, 10696433002, 10696433003, 10696433004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	<3.8	15.0	3.8	06/18/24 13:10	
Motor Oil Range	mg/kg	<4.5	10.0	4.5	06/18/24 13:10	
n-Triacontane (S)	%.	93	50-150		06/18/24 13:10	
o-Terphenyl (S)	%.	89	50-150		06/18/24 13:10	

LABORATORY CONTROL SAMPLE: 4976002

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	47.4	95	50-150	
Motor Oil Range	mg/kg	50	51.7	103	50-150	
n-Triacontane (S)	%.			94	50-150	
o-Terphenyl (S)	%.			95	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4976003 4976004

Parameter	Units	10696498001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	5.2J	47.9	48.6	45.2	47.4	84	87	50-150	5	30	
Motor Oil Range	mg/kg	17.7	47.9	48.6	59.3	66.2	87	100	50-150	11	30	
n-Triacontane (S)	%.						85	88	50-150			
o-Terphenyl (S)	%.						94	94	50-150			

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
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Chehalis Power Plant
Pace Project No.: 10696433

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 952018

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

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Chehalis Power Plant
Pace Project No.: 10696433

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10696433001	**SB-1-1.6**	EPA 3546	951451	NWTPH-Dx	952018
10696433002	**SB-1-9**	EPA 3546	951451	NWTPH-Dx	952018
10696433003	**MW-2R-10**	EPA 3546	951451	NWTPH-Dx	952018
10696433004	**MW-2R-20**	EPA 3546	951451	NWTPH-Dx	952018
10696433001	**SB-1-1.6**	ASTM D2974	951553		
10696433002	**SB-1-9**	ASTM D2974	951553		
10696433003	**MW-2R-10**	ASTM D2974	951553		
10696433004	**MW-2R-20**	ASTM D2974	951553		

Pace® Location Requested (City/State):
Pace Analytical Minnesota
1700 Elm Street, Suite 200
Minneapolis, MN 55414

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder Label Here

WO# : 10696433

10696433

Company Name:	A & M Engineering and Environmental Services, Inc.	Contact/Report To:	Dan Landry
Street Address:	1176 West 7th Avenue, Eugene, OR 97402	Phone #:	(541)743-2600
		E-Mail:	dlandry@aandmengineering.com
		Cc E-Mail:	
Customer Project #:			
Project Name:	Chehalis, WA	Invoice To:	Accounts Payable
		Invoice E-Mail:	ap@aandmengineering.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	00155533

Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Washington

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [X] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [X] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Specify Container Size **: 10 | 10 | | 10

Identify Container Preservative Type***: 11 | 11 | | 11

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only:
Proj. Mgr: Jennifer Gross
AcctNum / Client ID:
Table #:
Profile / Template: 32819
Prelog / Bottle Ord. ID: EZ 3117919

Preservation non-conformance identified for sample.

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Dry Weight / %M by ASTM D2974	NWTPH-Dx (5 day)	PFAS ID SL	WA-EPH (HOLD)	Sample Comment
SB-1-1.6	SS	G	6/9/24		6/9/24	1130	3			X	X		X	01
SB-1-9	SS	G	"		"	1200	3			"	"		"	02
MW-2R-10	SS	G	"		"	1310	3			"	"		"	03
MW-2R-20	SS	G	6/9/24		6/9/24	1330	3			X	X		X	04

Additional Instructions from Pace®:

Collected By:
(Printed Name) DAVID SEAVER
Signature: [signature]

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
1	TH	-0.3	2.6	2.3	Y

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	6/11/24 0815	Melissa/Pace	6/13/24 850
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In- Person [ ] Courier
[ ] FedEX [ ] UPS [ ] Other

Page: 1 of 1

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: A&M Engineering and Environmental Services Inc **PROJECT #:**

WO#: 10696433
PM: JMG Due Date: 06/27/24
CLIENT: A&M Engineer

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 7751 6115 4374 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☒ YES ☐ NO **Seals Intact:** ☒ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☒ N/A

Packing Material: ☒ Bubble Bags ☒ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☒ YES ☐ NO **Type of Ice:** ☐ Blue ☐ Dry ☒ Wet ☐ Melted ☐ None

Thermometer: ☐ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☒ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☒ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☒ N/A
Correction Factor: -0.3 **Cooler Temp Read w/Temp Blank:** 2.6 °C **Cooler Temp Corrected w/Temp Blank:** 2.3 °C	**Average Corrected Temp (no Temp Blank Only):** _____ °C
***NOTE:** Temp should be above freezing to 6°C.*	☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☐ N/A – Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** MMM 6/13/24
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☒ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☒ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☒ MINNEAPOLIS ☐ VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?	☒	☐		1.
Chain of Custody Relinquished?	☒	☐		2.
Sampler Name and/or Signature on COC?	☒	☐	☐	3.
Samples Arrived within Hold Time?	☒	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☒		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☐	☒		6.
Sufficient Sample Volume?	☒	☐		7.
Correct Containers Used?	☒	☐	☐	8.
– Pace Containers Used?	☒	☐		
Containers Intact?	☒	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☒	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☒ Soil ☐ Water ☐ Other	☒	☐		11. **If NO, write ID/Date/Time of container below:** ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☒	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☒	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☐	☐	☒	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #**
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
				☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?	☐	☐	☒	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☒	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☒	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☒	15.
Trip Blank Custody Seals Present?	☐	☐	☒	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:** 6/14/23

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: MMM **Line:** 5

APPENDIX D
TERRESTRIAL ECOLOGICAL EVALUATION

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Terrestrial-ecological-evaluation.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Chehalis Power LP Generation Facility	
Facility/Site Address: 1813 Bishop Road, Chehalis, WA 98532	
Facility/Site No: 3336951	VCP Project No.: SW1246

Step 2: IDENTIFY EVALUATOR			
Please identify below the person who conducted the evaluation and their contact information.			
Name: Daniel Landry		Title: Senior Project Manager	
Organization: A&M Engineering and Environmental Services, Inc.			
Mailing address: 1176 West 7th Avenue			
City: Eugene	State: OR	Zip code: 97402	
Phone: 541-743-2600	Fax:	E-mail: Eugene	

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☒ Yes *If you answered **"YES,"** then answer **Question 2**.*

☐ No or Unknown *If you answered **"NO" or "UNKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☒ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No or Unknown *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 3** below.*

☐ No *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

☐ Yes *If you answered **"YES,"** then answer **Question 4** below.*

☐ No *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*

☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

☐ Area of soil contamination at the Site is not more than 350 square feet.

☐ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

☐ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.

☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

- ☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- ☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

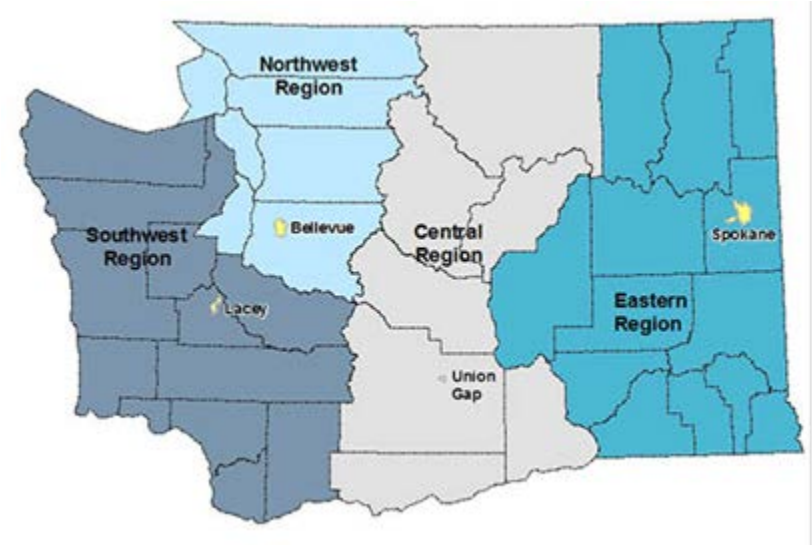
5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call 877-833-6341.