

GROUNDWATER MONITORING REPORT


2nd Quarter 2024


June 6, 2024

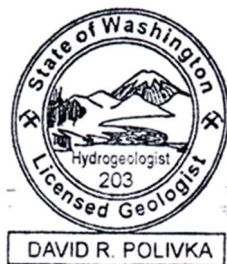
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1.0 INTRODUCTION

ECI Environmental Services Inc. (ECI) has prepared this Groundwater Monitoring Report to present findings following the completion of a groundwater sampling event on May 17, 2024, at 8010 South 259th Street, Kent, Washington (Property/Subject Property) (Figure 1, Appendix A).

This report documents the results of groundwater samples collected from the five (5) installed groundwater monitoring wells (Figure 2, Appendix A). This report details field activities and observations, sampling activities, analytical results, and provides conclusions and recommendations.

As established in WAC 173-340-200, the “Site” means the same as “Facility” and is defined as:

“...any area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed or otherwise come to be located...”

For this report, the “Site” is defined by the full lateral and vertical extent of petroleum hydrocarbons originating from a former automobile wrecking yard that was present on the Subject Property. Therefore, the contaminants of concern (COCs) at the Site are:

- Diesel-range Organics (DRO),
- Oil-range Organics (ORO),
- Total & Dissolved Arsenic
- Polychlorinated biphenyls (PCBs) in soil

1.1 Property Description/Location

According to the King County Assessor, the Property consists of a single tax parcel (Number 000660-0045) 65,015 square feet in size, currently zoned Commercial Manufacturing II (CM-2) by the City of Kent and is listed by the King County Assessor’s office as being used for light industrial purposes as is the rest of the vicinity. The lot is currently an asphalt paved dispatch, staging, and service yard for BLT Transport LLC that has been improved with one structure used for maintenance and office purposes.

2.0 PHYSICAL SETTING

Geological and hydrogeological conditions can often affect, to some extent, the environmental integrity of a property. Underlying soil and bedrock formations may facilitate or impede the migration of chemical contaminants in groundwater and may even be the source of contaminants such as radon and metals. This section of the report summarizes geologic factors that may affect the Subject Property regarding environmental concerns.

2.1 Geology

The Subject Property is located within the Puget Sound Basin, which is classified as unconsolidated Pleistocene continental glacial drift. The glacial deposits predominantly consist of sand and silt, with

varying amounts of gravel and cobbles (United States Geological Survey, 2005). More specifically, according to the Washington State Department Natural Resources Geologic Portal, the Subject Property is part of a meandering river valley characterized by thick fluvial and floodplain deposits of the Green and White Rivers, and numerous small streams. These deposits consist of gravel, sand, silt, with some clay. Locally could contain low-level terrace, marsh, peat, and glacial deposits locally.

The Natural Resources Conservation Service (NRCS) Web Soil Survey describes the soils at the Subject Property as Urban land.

2.2 Hydrogeology

The primary aquifers in the Puget Sound region are typically in glacial sands and gravels overlain by relatively impermeable glacial till deposits, which are present at or near the ground surface. Within these till deposits are localized areas or lenses of water-bearing sands and gravels that may result in a shallow, localized, perched water table. Lateral and vertical migration of shallow groundwater may be impeded by the relatively impermeable nature of the till and by the sometimes-discontinuous nature of the perched water-bearing sands and gravel. In some areas, the hydrogeology is controlled by large gravel deposits that are the result of advance and recessional glacial outwash or non-glacial alluvium deposited by rivers in the region.

Perched and discontinuous zones of shallow groundwater may be seasonally or perennially present, depending on site-specific conditions. Shallow groundwater flow directions fluctuate and tend to follow topographic gradient but are also affected by seasonal high-water tables and variable soil characteristics. Groundwater migration pathways may also follow underground conduits.

According to ECI well logs, the depth to groundwater at the Site ranges from 5 to 10 feet below ground surface (bgs). According to the United States Geological Survey (USGS) Auburn, WA, 2020, 7.5-minute quadrangle topographic map, the Property is in the Green River Valley at an elevation of approximately 40 feet above Mean Sea Level (MSL).

The Property is located between the beginning and end of a significant meander in the Green River which is situated approximately 480 feet to the southwest and 825 feet southeast of the Property and flows in a general north-northwesterly direction into Puget Sound (Elliott Bay) approximately 12.5 miles north-northwest of the Subject Property. State Route 167 is approximately 0.66 miles west of the Subject Property.

3.0 PREVIOUS INVESTIGATIONS / INTERIM ACTIONS

3.1 Preliminary Site Investigation (Paul Siebenaler, February 1995)

On February 12, 1995, Paul Siebenaler conducted a preliminary site investigation at Atomic Auto Wrecking Property. The property at the time was approximately 2 acres which includes the Subject Property. According to Mr. Siebenaler, a property transfer assessment conducted by Enviro identified an area that

is described as " heavy stained." The heavily stained area was adjacent to a building referred to as the storage shed located in the south-central portion of the current Subject Property. Mr. Siebenaler noted that the storage shed had engines, gasoline tanks, and transmissions stored on the ground and that the area was heavily stained with petroleum products.

Based on visual observations made at the site, Mr. Siebenaler divided the Property into three areas, 1) the heavily stained area identified in the property transfer assessment, 2) the area near a building known as the woodshed located in the southeastern portion of the current Subject Property, 3) and the rest of the site. It was noted that in Area 1, the top 4 inches were highly saturated with petroleum. The soil 6 inches below the ground surface (bgs) to 1.5 feet bgs also had significant amounts of petroleum but was visually less contaminated than the top 4 inches and the soil at 2 feet bgs did not show signs of significant contamination.

Three grab samples and 4 composite samples were collected in Area 1 ranging in depth from the surface to 2 feet bgs. Two grab Samples were collected from Area 2 at 4-inches and 1-foot bgs and one sample was collected from a localized stained area in Area 3 in What appears to be the current adjacent parcel to the east.

The samples were analyzed for Hydrocarbon Identification (HCID), Total Petroleum hydrocarbons (TPH) using EPA Method 418.1, TPH- gasoline, and the metals chromium, copper, lead, and zinc. The analytical results revealed that total petroleum hydrocarbons via EPA Method 418.1 was above the MTCA Method A Cleanup Levels in effect at that time (200 mg/kg) in all samples except one sample from Area 1 at a depth of 2.5 feet bgs. The concentrations of TPH were also greater than the current MTCA Method A Cleanup Level of 2,000 mg/kg in all the samples collected at the site except two in Area 1, gasoline, BTEX, lead and chromium were also found in several the samples from Area 1 above the MTCA Method A Cleanup Levels.

Based on the results of the Preliminary Site Investigation, Mr. Siebenaler indicated that the approximate 400 cubic yards of contaminated soil in Area 1 and the approximate 80 cubic yard of contaminated soil in area 2 could be excavated for disposal off-site at a landfill. He also indicated that the soil to a depth of 6 inches in Area 3, the main portion of the site, could be excavated and stockpiled and that doing so would likely mix the soils enough to be below cleanup levels.

3.2 Environmental Restoration Work Plan-Atomic Auto Wrecking (Galloway 1995)

In June 1995, Galloway Environmental Inc. (GEI) prepared an "Environmental Restoration Work Plan" for the Atomic Auto Wrecking Site, which included the current Subject Property. The work plan outlined the scope of work that would be used in the site restoration. The site restoration would include:

- temporarily stockpiling the "clean" materials on-site to be used as backfill following affected soil removal;
- excavating the affected soil;
- transporting approximately 400 cubic yards of the most highly impacted soil to a thermal treatment facility in Tacoma, Washington;
- on-site bioremediation of the remaining affected soils in an on-site engineered bio-treatment cell;

- backfilling the excavation with approved materials and paving the surface with asphalt;

A figure in the Site Restoration Plan indicated that the entire area of the current Subject Property would be excavated with a soil processing area near the north central portion of the Subject Property and the paved bio-treatment cell along the western Subject Property boundary.

3.3 Phase II Site Assessment (Stemen Environmental, October 1999)

In September 1999, Stemen Environmental Inc. (Stemen) conducted a Phase II Site Assessment on the adjacent parcel to the east of the current Subject Property. The property, then known as the Boyd Investment Properties, was part of the Atomic Auto Wrecking investigations and remedial actions conducted in 1995 and described above.

During the 1999 investigation, Stemen collected eight discreet soil samples from eight selected sampling locations on the property and one groundwater sample. However, none of the samples were collected on the current Subject Property. The soil samples were collected from a depth of 5 to 6 feet bgs with one sample collected at a depth of 3 feet bgs. The groundwater sample was collected at a depth of approximately 9 feet bgs. All the samples were analyzed for diesel-range organics (DRO) and oil-range organics (ORO).

The analytical results of the samples analyzed revealed that DRO and ORO were not detected in the samples. Based on the results of the investigation, Stemen concluded that:

“...the past uses of the subject property and the past and/or current uses of adjacent properties have not adversely impacted the environmental integrity of the subject property.”

3.4 No Further Action Letter-Boyd Investment Properties (Ecology, March 2000)

Based on the 1995 Paul Siebenaler preliminary site investigation and the 1999 Stemen Environmental, Inc. Phase II Site Assessment, Ecology issued a No Further Action Determination for the Boyd Investment Properties adjacent to the current Subject Property. Ecology stated:

“Based upon the above listed information, Ecology has determined that, at this time, the release of total petroleum hydrocarbons into the soil no longer poses a threat to human health or the environment. Therefore, Ecology is issuing this determination that no further remedial action is necessary at Parcel #09260024000, Boyd Investment Properties...”

And:

“Ecology’s no further action determination is made only with respect to the characterization work identified in the Stemen Environmental, Inc. report listed above, and applies only to the .45-acre area of the property formerly occupied by the wrecking yards office and customer parking lot of the former Atomic Auto Wrecking Yard, located at 1037 South Central, Kent, Washington as identified in the reports. It does not apply

to any other release or potential release at the property, any other areas on the property, nor any other properties owned or operated by Boyd Investment Properties.”

3.5 Summary File Review-Atomic Auto Wrecking 1037 Central Ave (Aerotech, May 2016)

In January 2016, Aerotech Environmental Consulting Inc. (Aerotech) performed a Phase I Environmental Site Assessment Phase I ESA). That Phase I ESA indicated that:

“The Subject Property was originally part of a 2.0-acre Parcel of land that housed Atomic Auto Wrecking from 1980 through early 1990s. In 1994, Atomic Auto Wrecking reported a release to the Washington State Department of Ecology and subsequently completed an Independent Cleanup. In 2000, the State of Washington Department of Ecology granted the property a No Further Action determination to the 0.45-acre area that did not include the portion of the subject Property, only the land to the east. One of the two options are recommended: 1) Completion of a File Review with State of Washington Department of Ecology which will require approximately ten weeks to complete, or: 2) Perform a Phase II Subsurface Investigation that will require approximately 2 V; weeks and cost \$8,900.

Following the completion of the Phase I Environmental Site Assessment, BLT Transport LLC elected to have Aerotech Environmental Consulting Inc. conduct a File Review with the State of Department of Ecology.”

Aerotech indicated that their file review found that:

“...petroleum impacted soils were discovered on the subject Property and east adjoining property. However, remedial activities were only conducted on the east adjoining property and not on the subject Property. No documentation of any completed remedial activities for the subject Property was contained within the State of Washington Department of Ecology Northwest Regional Office records. As such, further investigation is recommended.”

3.6 Focused Subsurface Investigation (ECI, May and June 2016)

As a result of the Phase I Environmental Site Assessment completed by Aerotech Environmental in 2015 identifying the Property as having been an automobile wrecking yard, on May 16, 2016, ECI oversaw the advancement of eight borings on the Property to determine if the soil and/or groundwater on and beneath the Property had been impacted. These boring were located after dividing the Property into a grid of eight equal sections. One boring was advanced in each section. One soil sample was collected from each boring at a depth of 2 to 4 feet bgs. In addition, groundwater was encountered at a depth of 7 to 7.5 feet bgs and a sample was collected from each boring. The samples were analyzed for hydrocarbon Identification using the NWTPH-HCID analytical method.

The analytical results of the HCID analyses revealed that four of the soil samples contained ORO contaminants. GRO and DRO were not detected above the laboratory practical quantitation limits (PQLs).

These four samples were subsequently analyzed for ORO. ORO was identified at concentrations exceeding the MTCA Method A Cleanup Level in two of the four soil samples. These were in samples from borings B2 and B3.

The analytical results of the groundwater samples revealed the presence of ORO in three of the samples analyzed by NWTPH-HCID. GRO and DRO were not detected above the laboratory PQLs. The samples that contained ORO were subsequently analyzed for ORO using method NWTPH-Dx extended with a silica gel cleanup to remove the effects of natural organic matter and silt in the samples. The analytical results did not report DRO or ORO above the laboratory PQLs.

Based on the analytical results of the soil samples, ECI returned to the Property on June 1, 2016, and excavated eight test pits in the northern portion of the Property to delineate the ORO contamination previously found. Soil samples were collected from a depth of 3 and 6 feet bgs in each test pit.

Ten of the samples were analyzed for DRO and ORO. Of the ten samples analyzed, four detected DRO and/or ORO above the laboratory PQLs but below the MTCA Method A Cleanup Levels.

ECI concluded that the use of the Property as an automobile wrecking yard resulted in the release of oil-range hydrocarbons onto the surface soil in the northern portion of the Property. ECI also indicated that clean surface rock had been brought onto the Property after the automobile wrecking yard was no longer operating, which would explain why the contamination was not observed at the immediate surface.

ECI recommended:

“That soil containing concentrations in excess of the MTCA Method A Cleanup Level... be excavated, removed from the Property, and disposed of at an appropriate Subtitle D Landfill.”

3.7 Site Characterization Report-(ECI, July 2016)

After the initial FSI and sometime between June 1, 2016, and June 15 -16, 2016, soil was excavated to a depth of approximately 6 to 7 feet below ground surface (bgs) at the site for a stormwater detention system. The soil was segregated into two stockpiles. The first stockpile (SP1) was the top 2 to 3 feet bgs of clean imported surface rock and soil over the entire stormwater detention system area. This pile was estimated to contain 1,000 cubic yards (1,500 tons) of material was potentially to be reused on the site.

The second stockpile (SP2) was from a depth of 4 to 6 feet bgs beneath the soil excavated for stockpile SP1. This stockpile was the native soil below the imported fill and was estimated to contain 1,000 cubic yards (1,500 tons) of material and may have contained the ORO contaminated soils observed during ECI’s previous investigation.

Following the stockpiling of the excavated soil by the excavation contractor, ECI returned to the site on June 15 and 16, 2016 to sample the stockpiles. ECI collected 10 samples from each stockpile for analysis. In addition, ECI collected 10 soil samples from the sidewalls and base of the northern portion of the excavation near where ORO contamination had previously been observed.

A total of 30 samples were analyzed for DRO and ORO. The analytical results revealed that 24 of the samples had detectable concentrations of DRO and/or ORO. However, only one sample from stockpile SP2 (SP2-9) contained a concentration of ORO above the MTCA Method A Cleanup Level. Based on these results, 15 samples, (five from each stockpile and five from the excavation) were analyzed for PCBs and MTCA 5 metals.

The analytical results from the additional analyses revealed that PCBs were present above the MTCA Method A Industrial Cleanup Level in one of the samples from the northern sidewall of the excavation and that cadmium was present above the MTCA Method A Industrial Cleanup Level in six of the stockpile samples and five of the excavation samples.

ECI recommended further excavation within the stormwater detention system to remove the area with PCB contaminated soil, as well as removal of the area of stockpile SP2 with ORO contaminated soil. This was performed without ECI oversight and placed into a separate stockpile (SP3). In addition, ECI recommended engaging with Ecology on possible cleanup alternatives and closure pathways.

On June 29, 2016, ECI returned to the Property and collected a composite sample from stockpile SP3 for a disposal profile (SP3-Composite). In addition, one sample from the sidewall of the over-excavated PCB area within the stormwater detention system excavation was collected for analysis. The analytical results of the sidewall sample were reported as being below the Method A Industrial Cleanup Levels. The composite sample from stockpile SP3 did not detect concentrations of the contaminants of concern above their respective laboratory PQLs and or above their respective MTCA Method A Industrial Cleanup Levels.

Based on the analytical results of the sample from stockpile SP3, a special waste profile was completed for disposal of the soil in stockpile SP3 at Republic Services Roosevelt Regional Landfill in Klickitat, Washington via their 3rd and Lander transfer station in Seattle, Washington. Copies of disposal receipts obtained by ECI showed that BLT Trucking transported a total of 175.38 tons of contaminated soil to the transfer facility on July 13 and 18, 2016. It should be noted that the disposal receipts were obtained after the completion of ECI's July 2016 Site Characterization Report.

3.8 Stormwater Detention System Installation

Following the excavation, stockpiling, and sampling of potentially contaminated soils and the disposal of the soils in stockpile SP3, the excavation contractor completed excavation of the stormwater detention system and the stormwater detention system piping was installed and backfilled with pea gravel, and the stockpiled soils consisting of silty sand with gravel. After ECI's investigations, it is estimated that the depth of the stormwater detention system excavation was extended approximately 6 to 8 feet.

Samples of the excavated soil were not collected by the property owner during the excavation and installation of the stormwater detention system. Due to samples not being collected, in March 2021, ECI recommended additional investigations which included the advancement of soil borings and groundwater monitoring in and around the stormwater detention system excavation to confirm that the soils in that area are not contaminated from previous activities on the Subject Property.

3.9 Focused Subsurface Investigation & Groundwater Monitoring (ECI, March-November 2021)

In March 2021, ECI oversaw the advancement of ten soil borings and the installation of five groundwater monitoring wells on the Property near where previous investigations had found contamination above cleanup levels during excavation for a stormwater detention system in 2016. The contaminated soil was reportedly independently remediated in 2016 by the previous owner of the Property through excavation, bioremediation, and off-site disposal. The borings advanced in March 2021 were to confirm that the soils around and beneath the stormwater detention system excavation had been effectively remediated and/or not affected by previous activities on the Property.

A total of 25 soil samples were collected from the borings and 15 were analyzed for COCs. The analytical results revealed that with the exception of lead, total chromium, and arsenic, the contaminants of concern were reported as not being present above their respective laboratory PQLs. Lead, total chromium, and arsenic were reported above the respective laboratory PQLs in every sample analyzed. However, arsenic was the only contaminant reported to exceed the MTCA Method A Cleanup Levels in five of the samples collected from a depth of 15 feet bgs. The concentrations were just above the cleanup level of 20 mg/kg and ranged from 20 mg/kg to 26 mg/kg. Because arsenic was not detected above 6.92 mg/kg in shallow samples during the previous investigations or above the cleanup level in the shallow samples from the March 2021 investigation, it was ECI's opinion that the arsenic found at 15 feet bgs was not a result of activities on the Subject Property.

Between March 2021 and November 2021, ECI conducted four groundwater quarterly sampling events, where samples were collected from the five groundwater monitoring wells installed at the Site. The samples were collected to confirm that the groundwater had not been affected by the contamination previously found on the Property.

The analytical results showed total arsenic to be above its MTCA Method A Cleanup Level throughout the four quarters in samples from one or more monitoring wells. The samples reporting concentrations of total arsenic above the MTCA Method A Cleanup Level for the first through third consecutive groundwater monitoring events were further analyzed for dissolved arsenic. With the exception of the second consecutive groundwater monitoring event, the analytical results for all samples were reported below the laboratory PQL for dissolved arsenic. The remaining COCs were reported below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels for each of the monitoring wells (MW1 through MW5).

The analytical results from the second quarter sampling event reported the concentrations of dissolved arsenic above the concentration levels of the total arsenic analytical results. This can occasionally occur due to numerous reasons ranging from sampling and/or laboratory errors to the EPA acknowledged limitations with the analytical and sample preparation methods. A summary of the groundwater analytical results is presented in Table 2, Appendix B.

Because the root cause for the discrepancy between the total and dissolved arsenic in the samples cannot be determined and the dissolved arsenic analytical results reported during the first and third consecutive groundwater monitoring events conducted on March 30, 2021, and September 23, 2021, reported concentrations below the laboratory PQL for arsenic, ECI did not consider the analytical results for arsenic

from second quarter sampling event to be representative of true concentrations of total and/or dissolved arsenic within the groundwater at the Site.

3.10 BLT Trucking: Arsenic in Groundwater at/near the BLT Trucking Site (ECI, November 2022)

During a June 24, 2022, meeting Ecology requested additional information regarding the elevated concentrations of arsenic found in the groundwater on the BLT Trucking Property. Ecology indicated that there were two possible options for addressing the arsenic. The first was to assess if there was enough empirical data to support a statistical analysis then perform a statistical analysis to show that the concentrations found were not statistically significant. The second option was to show that the arsenic was not from the Property and was within the background levels. ECI reviewed the options presented by Ecology and in a letter dated November 14, 2022, responded to Ecology's request.

In the response to Ecology, ECI indicated that based on a review of the Ecology requirements to determine that the analytical results were not statistically significant, and a review of the statistical programs used by both Ecology and EPA, it was ECI's opinion that the statistical analysis was not a straightforward option and would likely require more data. ECI decided to attempt to show that the arsenic was not from the Property and was within the background levels.

ECI's research revealed that the entire region was once agricultural from at least the 1930s to the mid-1960s and contained several cherry orchards. During that timeframe, it was common to use lead-arsenic pesticides. Lead-arsenic pesticide residues have been found in both the soil and groundwater of many agricultural areas around the State of Washington and are likely what has been identified at the BLT site.

ECI found that there were 117 total sites within that 2-mile radius of the BLT Property but that only 11 mentioned having arsenic above the soil and groundwater cleanup levels. One of the sites was the Joseph Simon and Sons site immediately adjacent and potentially upgradient to the BLT Property to the north. The arsenic levels found in the monitoring wells on that site ranged from below the laboratory PQL to 12.4 µg/L. which was in the same range as was found at the BLT Trucking site at the time. The consultant for the Joseph Simon and Sons site concluded that arsenic found at that site was likely from an off-site source.

At Ecology's request, the consultant also researched background levels of arsenic in South King County and the vicinity of the site. The consultant concluded:

"Although specific groundwater sample locations do not appear to be in the immediate vicinity of the Joseph Simon and Sons site, the King County reports illustrate that arsenic concentrations above the MTCA Method A cleanup level of 5 µg/L are a common occurrence in the South King County area. The arsenic concentrations detected in groundwater samples collected at the Joseph Simon and Sons site appear to be consistent with those presented in the King County reports and appear to be indicative of regional background concentrations."

Based on ECI's research and the information presented for the Joseph Simon & Sons site, it was ECI's opinion that the arsenic that was found in the groundwater at the BLT site is not from the BLT site and is within the range of concentrations that are found regionally.

3.11 Further Action Letter, (Ecology, March 2023)

In a letter dated March 13, 2023, Ecology indicated that “Further Remedial Action” was required at the site. They stated that:

“Contaminated soil (TPH-D + TPH-O, PCBs, cadmium, lead, and arsenic) remains on the Property at concentrations exceeding the MTCA Method A soil cleanup levels for unrestricted land use. The vertical and lateral extents of soil contamination have not been delineated. The source of arsenic contamination has not been investigated or evaluated. The potential for soil contamination off the Property to the north has not been investigated.”

Ecology also stated that:

“Contaminated groundwater (arsenic) has been confirmed beneath the Property at concentrations exceeding the MTCA Method A groundwater cleanup level for unrestricted land use. Arsenic exceeding the cleanup level and background level was present in groundwater at multiple of the existing groundwater monitoring wells (MW-1 through MW-5). The extents of the groundwater contamination at the Site have not been delineated and the potential for downgradient off-Property migration has not been assessed.”

Ecology requested:

- Additional borings to sample the fill in the excavation area along with the additional borings requested outside the excavation area;
- Additional characterization of Total Petroleum Hydrocarbons for diesel (TPH-D) and oil (TPH-O) and required that TPH-D and TPH-O analytical values be combined, and the total compared to the MTCA Method A Cleanup Level to assess if an exceedance of the cleanup levels have occurred;
- Additional borings and soil samples be collected to determine if contamination has extended to the north off the Property and in a “downgradient” direction;
- That the vertical and lateral extent of arsenic in soil at the Site be further delineated and
- Additional groundwater monitoring wells that are not located within or near the stormwater detention gallery to evaluate the groundwater flow.
- Additional groundwater monitoring wells and groundwater sampling to delineate the extent of arsenic in groundwater at the Site and to determine whether contamination is migrating off the Property.”
- That a complete Remedial Investigation and a Feasibility Study (RI/FS) with a disproportionate cost analysis (DCA) be performed.

3.12 Response November 2022-Arsenic in Groundwater BLT Trucking Site (Ecology, May 2023)

In an email dated May 31, 2023, Ecology indicated that they had performed a site wide statistical analysis on the soil and groundwater results from the BST site and indicated:

“Based on the findings, we do not think it is necessary to install any additional wells on the Property at this time. It would appear that for both groundwater and soil, the Site may be

moving toward a statistical determination, however, that determination cannot be made without additional data.”

Ecology also stated that:

“...more arsenic groundwater data is needed, but we believe this can be achieved using the existing wells. The installation of additional monitoring wells is not needed at this time, but we request four quarters of groundwater data be collected from the existing wells...”

3.13 Remedial Investigation Report (ECI, October 2023)

In July 2023, ECI professionals conducted a remedial investigation to meet the requirements of the MTCA regulations for an RI, to delineate contamination previously identified on the Property, and to fill in the data gaps remaining from the previous investigations.

The investigation consisted of five borings (B19 through B23) to approximately 20 feet bgs in various locations near and in the stormwater detention system. Thirty-eight (38) soil samples were collected of which twenty-four (24) were analyzed for the Site's COCs. Additionally, quarterly groundwater monitoring was also performed and all five of the existing monitoring wells on the Site were sampled.

The results from the investigation revealed PCBs in four soil samples and cadmium in one soil sample. No other contaminants of concern were reported as being above their respective laboratory PQLs or above their respective MTCA Method A Cleanup Levels. PCBs were found above MTCA Method A Cleanup Levels in the three borings along the northern Property boundary at a depth of 2 to 4 feet bgs and at the MTCA Method A Cleanup Level in one sample within the stormwater detention system at a depth of 8 feet bgs. Cadmium was reported above the MTCA Method A Cleanup Level of 2 mg/kg in one sample collected at a depth of 2 feet bgs in one boring along the northern Property boundary and was not detected above the laboratory PQL in the remaining soil samples. ECI considered this to be an isolated occurrence.

The groundwater analytical results revealed that ORO was detected above the MTCA Method A Cleanup Levels in the sample collected from monitoring well MW4 located in the northeast portion of the stormwater detention system. It was ECI's opinion that this was an anomaly since DRO and ORO have not been detected above the laboratory PQL in any of the previous samples from the well except for one analytical result just above the laboratory PQL and that DRO/ORO has not been detected above the laboratory PQL in any of the other wells at the Site.

Ecology requested that arsenic be analyzed using EPA Method 7010 (Graphite Furnace Atomic Absorption Spectrophotometry [GF-AA]). However, due to the equipment to analyze the arsenic being apparently out for repair, the samples were analyzed at another laboratory using EPA method 6020B (Inductively Coupled Plasma-Mass Spectrometry [ICP-MS]).

As a result, ECI had selected soil samples and all the water samples reanalyzed using the GF-AA method 7010. The results from the Method 7010 analyses revealed that all the groundwater samples contained arsenic above the MTCA Method A Cleanup Levels for total and dissolved arsenic. This was in contrast to

the results from the ICP-MS method which revealed that total arsenic exceeded the MTCA Cleanup Levels in four of the five groundwater samples and that dissolved arsenic exceeded the MTCA Cleanup Level in two of the five groundwater samples.

ECI observed that the temperature of the groundwater and the conductivity were significantly higher than previously observed as well as the elevation of groundwater (9.74 and 10.70 feet below the top of the casing of each well) was the lowest observed compared to historical levels. Based on this, it was ECI's opinion that the arsenic concentrations observed in the groundwater during the July 2023 sampling event was not representative of the overall condition of groundwater at the site and may be outliers when compared to historical and future groundwater sampling events. ECI stated that future quarterly monitoring as specified in the May 2023 Remedial Investigation/Feasibility Study Work Plan would help determine if the July results were outliers.

At the time of the Remedial Investigation groundwater sampling, the groundwater flow direction at the Site appeared to be to the west in the western portion of the Site and to the east in the eastern portion of the Site. This was like what was observed on the adjacent Joseph Simon and Sons Site to the north. However, it should also be noted that the depths to groundwater were within the elevation of the infiltration pipes of the stormwater basin. It is likely that the groundwater levels and flow were affected by the stormwater basin.

Based on the results of this Remedial Investigation, it was ECI's opinion that the soil contamination found on the Subject Property had been adequately characterized and that the soil exposure pathway can be mitigated with maintaining the current asphalt parking area under an environmental covenant.

The results of the groundwater analyses revealed that the groundwater contamination appeared to be near and in the stormwater detention system and may be within the regional background levels and that future groundwater sampling events would provide the information required to determine if the results were within the regional background levels. Given the groundwater appeared to be located near the stormwater detention system, it was ECI's opinion that a "Conditional Point of Compliance" could be established at the Property boundaries.

3.14 First Quarter 2024 Groundwater Monitoring (ECI, February 2024)

On February 2, 2024, groundwater samples were collected from the five (5) monitoring wells (MW1 through MW5) as part of the Ecology requested quarterly sampling to evaluate the groundwater conditions at the Site.

The analytical results revealed a detection of heavy oil (ORO) contamination in monitoring well MW4 at 390 µg/L which was above the laboratory PQLs but below the MTCA Method A Cleanup level for ORO. Each of the samples reported total and dissolved arsenic above MTCA Method A Cleanup level of 5.0 µg/L except for monitoring well MW5 for total arsenic which was below the laboratory PQL of 5 µg/L. Even though MW5 was below the laboratory PQL for total arsenic, dissolved arsenic was reported at 22 µg/L which is above the MTCA Method A Cleanup Level.

Dissolved metals concentrations can occasionally be higher than the total concentrations reported due to numerous reasons ranging from sampling and/or laboratory errors to the EPA acknowledged limitations with the analytical and sample preparation methods. The root cause for the discrepancy between the total and dissolved arsenic in the samples cannot be determined. However, Concentrations of dissolved arsenic have been observed in the range found in the sample from Well MW5 in other wells at the site at time.

4.0 REGULATORY COMPLIANCE & CONTAMINANTS OF CONCERN

Regulatory compliance for this project is based on the Washington Administrative Code (WAC), Chapter 173-340 (the Model Toxic Control Act (MTCA) regulations) and the Revised Code of Washington (RCW) Chapter 70A.305, implemented by the Washington State Department of Ecology (Ecology) and the Pollution Liability Insurance Agency (PLIA). Pursuant to Chapter 70A.305 RCW, Ecology has established procedures for developing cleanup levels and requirements for cleanup actions. The rules establishing these standards and requirements were developed by Ecology in consultation with a Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in February 1991, with amendments in January 1996, February 2001, October 2007, and August 2023 (effective January 1, 2024).

4.1 Contaminants of Concern (COCs) and Cleanup Levels

Based on previous investigations, ECI and Ecology have determined that the contaminants of concern (COCs) for both soil and groundwater at the Subject Site are:

- Diesel-range Organics (DRO)
- Oil-range Organics (ORO)
- Arsenic
- Polychlorinated biphenyls (PCBs) in soil

For the arsenic in groundwater, both total and dissolved arsenic are contaminants of concern.

Given that the COCs Gasoline-Range Organics (GRO), BTEX, and cPAHs have been analyzed for in previous investigations and the analytical results have been reported either below their respective laboratory Practical Quantitation Limits (PQLs) or below their respective MTCA Method A Cleanup Levels, ECI does not consider GRO, BTEX, or cPAHs to be a concern to the Subject Property.

5.0 GROUNDWATER MONITORING

Because groundwater contamination was observed during the previous investigations conducted at the Site, the RI/FS workplan indicated that ECI would conduct quarterly groundwater monitoring events using the five (5) existing groundwater monitoring wells at the Subject Property as requested in a May 31, 2023, email from Ecology. ECI conducted the first of the quarterly groundwater monitoring events on July 26, 2023.

5.1 Monitoring Well Sampling

On May 17, 2024, groundwater samples were collected from the five (5) monitoring wells (MW1 through MW5), in accordance with American Society of Testing and Materials (ASTM) Guideline D6771-02 *“Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations”*.

ECI field staff followed the procedures described below when collecting groundwater samples:

- The cap from each monitoring well at the Site was removed and the groundwater level was allowed to equilibrate to atmospheric pressure for a minimum of 20 minutes.
- The depth to groundwater in each monitoring well at the Site was measured relative to the top of the well casing using an electronic water-level meter and or interface probe.
- Each monitoring well was then purged at a low-flow rate (100-300 milliliters per minute) using a peristaltic pump and new polyethylene tubing. “Field parameters” of temperature, pH, turbidity, dissolved oxygen (DO), oxygen reduction potential (ORP), and specific conductivity were monitored during purging using a water quality meter and a flow-through cell to determine when these parameters stabilized. The groundwater sampling documentation is presented in Appendix C.

Samples were collected in new laboratory-provided analyte-specific sample containers and assigned a unique sample ID. The samples were placed in a climate-controlled container and maintained at or below four degrees (4°) Celsius until delivered to the analytical laboratory, Libby Environmental of Olympia, Washington, under industry standard chain of custody protocol.

5.2 Analytical Results

On May 17, 2024, groundwater samples were collected from the five existing monitoring wells (MW1 through MW5) located on the property and submitted to Libby Environmental of Olympia, Washington and analyzed for the site-specific COCs. The samples were analyzed for contaminants of concern using Method NWTPH-Dx/Dx for DRO and ORO for monitoring well MW4 and Method NWTPH-HCID for GRO, DRO, and ORO for all remaining monitoring well samples.

Although Ecology requested that arsenic be analyzed using EPA Method 7010 (Graphite Furnace Atomic Absorption Spectrophotometry [GF-AA]), due to the GF-AA equipment apparently being out for repair, the samples were analyzed at another laboratory using EPA Method 6020B (Inductively Coupled Plasma-Mass Spectrometry [ICP-MS]).

The HCID analytical results revealed a detection of ORO greater than 500 µg/L in the sample from monitoring well MW3. Therefore, the sample was subsequently analyzed using Method NWTPH-Dx. The NWTPH-Dx analytical results for the samples from wells MW3 and MW4 revealed ORO contamination in monitoring well MW3 at 910 µg/L and MW4 at 630 µg/L, which are above the MTCA Method A Cleanup Level for ORO of 500 µg/L.

The samples from monitoring wells MW3 and MW4 were reanalyzed for ORO using a silica gel cleanup procedure that removes naturally occurring organic matter and petroleum hydrocarbon metabolites. During purging of the wells, it was noted that there was a sulfur odor to the water as well as a low dissolved oxygen content. This indicates that there is organic material decomposing in an anerobic environment.

The analytical results using the silica gel cleanup reported the sample from MW3 as being below the laboratory PQL. However, the sample from well MW4 was reported at 570 µg/L which is above the MTCA Method A Cleanup Level.

Except for the samples from wells MW1 and MW5, each of the samples reported total arsenic above the laboratory PQL and below the MTCA Method A Cleanup Level. The sample from well MW5 was reported with arsenic below the laboratory PQL. The sample from well MW1 was reported as containing total arsenic above the MTCA Method A Cleanup Level of 5 µg/L, at 7.6 µg/L.

Dissolved arsenic was reported above the laboratory PQL and below the MTCA Method A Cleanup Level in the samples from wells MW1, MW2, MW3 and MW4. The sample from well MW5 reported dissolved arsenic below the laboratory PQL.

A summary of the laboratory analytical results for this sampling event is provided in the table below. A summary of the analytical results for each of the monitoring well sampling events is provided in Table 2, Appendix B. The laboratory data sheets are presented in Appendix D.

Table 1: Groundwater Analytical Results

Sample Name	Date Sampled	Petroleum Hydrocarbons				Metals	
		Gasoline-range Organic	Diesel-range Organic	Oil-range Organic	Oil-range Organic w/ Silica Gel	Total Arsenic (7010)	Dissolved Arsenic (7010)
		Sample Reported in Micrograms per Liter (µg/L)					
MW1	5/17/2024	<200	<200	<400	--	7.6	2.6
MW2	5/17/2024	<200	<200	<400	--	1.0	1.1
MW3	5/17/2024	<200	<200	910	<330	2.1	2.0
MW4	5/17/2024	<200	<160	630	570	4.7	4.1
MW5	5/17/2024	<200	<200	<400	--	<1.0	<1
Laboratory PQL ¹		200	160/200	400	330	5.0	5.0
Cleanup Levels		800/1,000	500	500	500	5	5

Red: Sample Report >CUL (Cleanup Level)

Bold: Sample Report >PQL (Practical Qualitative Limit)

5.3 Site Groundwater Characteristics

During the sampling event, groundwater was encountered at depths between 8.22 feet below ground surface (bgs) and 8.74 feet bgs (elevations between 39.88 feet Above Mean Sea Level (AMSL) to 40.57 feet AMSL) in the wells located on the Site (Table 3, Appendix B).

¹ PQL=Practical Quantitative Limits

A survey of the installed monitoring wells was previously completed to locate the wells both vertically and horizontally. This data was used to prepare a groundwater contour map showing flow direction (Figure 3, Appendix A). The groundwater flow direction appeared to be to the northwest in the western portion of the Site with a very shallow gradient of 0.002 feet/foot (ft/ft) and to the northeast and east in the eastern portion of the Site with a steep gradient between wells MW3 and MW 4 of 0.021 ft/ft. (Figure 3, Appendix A). The groundwater divide observed is similar to what was observed on the adjacent Joseph Simon and Sons site to the north and in the July 2023 sampling event. It should also be noted that the depths to groundwater are within the elevation of the infiltration pipes of the stormwater basin. It is likely that the groundwater levels and flow are affected by the stormwater basin.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

On May 17, 2024, ECI environmental professionals sampled all five (5) groundwater monitoring wells on the Subject Property (MW1 through MW5). Five (5) groundwater samples were collected during the May 2024 investigation.

The analytical results revealed that monitoring well MW4 contained concentrations of ORO at 630 µg/L prior to the use of a silica gel cleanup procedure on the sample to remove natural organic materials and petroleum hydrocarbon metabolites. After using the silica gel cleanup procedure on the sample, the concentration of ORO was reported at 570 µg/L. Both concentrations are above the MTCA Method A Cleanup level for ORO of 500 µg/L.

Monitoring Well MW3 reported an ORO concentration of 910 µg/L before the use of the silica gel cleanup on the sample. After the use of the silica gel cleanup, the concentration of ORO in the sample from well MW3 was reported as being below the laboratory PQL of 300 µg/L.

The analytical results for arsenic revealed that concentration of total arsenic in the sample from well MW1 was 7.6 µg/L, which is above the MTCA Method A Cleanup Level of 5 µg/L. However, the dissolved arsenic concentration in the sample from well MW1 was below the MTCA Cleanup Level at 2.6 µg/L. Except for the sample from well MW5, both the total and dissolved arsenic concentrations in the samples were above the laboratory PQLs but below the MTCA Method A Cleanup Level. The total and dissolved arsenic concentrations in the sample from well MW5 was reported as being below the laboratory PQL.

Based on the results of this groundwater monitoring event, it is ECI's opinion that the groundwater contamination appears to be near and in the stormwater detention system and the concentrations of arsenic in the groundwater may be within the regional background levels. Future groundwater sampling events will provide the information required to determine if the results are within the regional background levels. Given that groundwater appears to be located near the stormwater detention system, it is ECI's opinion that a "Conditional Point of Compliance" can be established at the Property boundaries.

6.2 Recommendations

It is ECI's opinion that groundwater sampling should continue as directed by the May 2023 Further Action opinion from The Department of Ecology. Following the completion of four (4) consecutive 90-day groundwater monitoring events the reports along with a summary of site conditions and observations should be submitted to the Washington State Department of Ecology for review and an opinion under the Voluntary Cleanup Program. The objective is the receipt of a "*No Further Action*" (NFA) determination with an Environmental Covenant.

7.0 REPORT LIMITATIONS AND GUIDELINES FOR USE

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

7.1 Use of this Report by Others

This report by ECI was prepared for the exclusive use of Mr. Preet Chohan/BLT Trucking (Client) and/or his designated parties. This report may be provided to regulatory agencies for review if requested or required. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide ECI with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted environmental practices in this area at the time this report was prepared.

This report has been prepared for subsurface investigation activities at the Subject Property. ECI considered a number of unique, project-specific factors when establishing the scope of services for this project and report. No one except our Client should rely on this environmental report without first conferring with ECI. This report should not be applied for any purpose or project except the one originally contemplated.

Unless ECI specifically indicates otherwise, do not rely on this report if it was:

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

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

7.2 Uncertainty May Remain after Completion of Site Investigation and Remedial Activities

The investigation and remediation activities completed in a portion of a site cannot wholly eliminate uncertainty regarding the potential for contamination in connection with the entire property. Our interpretation of subsurface conditions in this study is based on field observations and chemical analytical data from the locations sampled. It is always possible that contamination exists in areas that were not explored, sampled, or analyzed.

7.3 Subsurface Conditions Can Change

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

7.4 Soil and Groundwater End Use

The cleanup levels referenced in this report are Site- and situation-specific and could change with time due to regulatory or Site changes. The cleanup levels may not be applicable for other sites or for other on-site uses of the affected media (soil and/or groundwater).

Note that hazardous substances may be present in some of the Site soil and/or groundwater at detectable concentrations that are less than the referenced cleanup levels. Because these cleanup levels can change, ECI should be contacted to evaluate the potential for associated environmental liabilities prior to the export of soil or groundwater from the Subject Site or reuse of the affected media on the Site. We cannot be responsible for potential environmental liability arising out of the transfer of soil and/or groundwater from the Subject Site to another location or its reuse on the Site in instances that we were not aware of or could not control.

7.5 Most Environmental Findings Are Professional Opinions

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

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Appendix C: Project Documentation

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Laboratory Analytical Reports

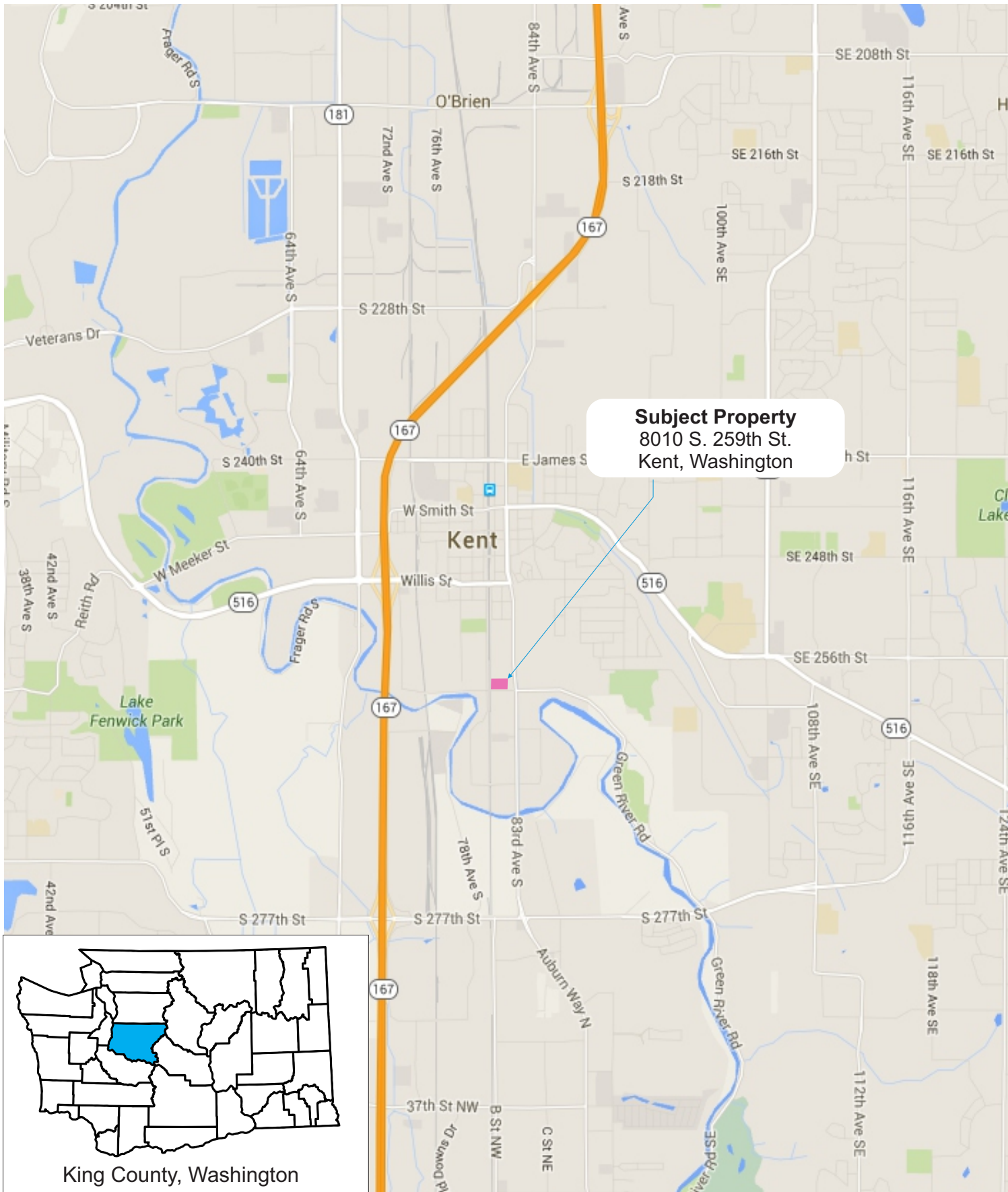
Sample Chain of Custody

Appendix A: Project Figures

Figure 1: Site Vicinity Map

Figure 2: Groundwater Analytical Map

Figure 3: Groundwater Contour Map



Site Vicinity Map
Groundwater Monitoring Report Q2 2024
8010 South 259th Street
Kent, Washington

Date: June 4, 2023
Completed By: C.Long
Reviewed By: S.Spencer
Version: ECI-001
Project No.: 0611-01-09

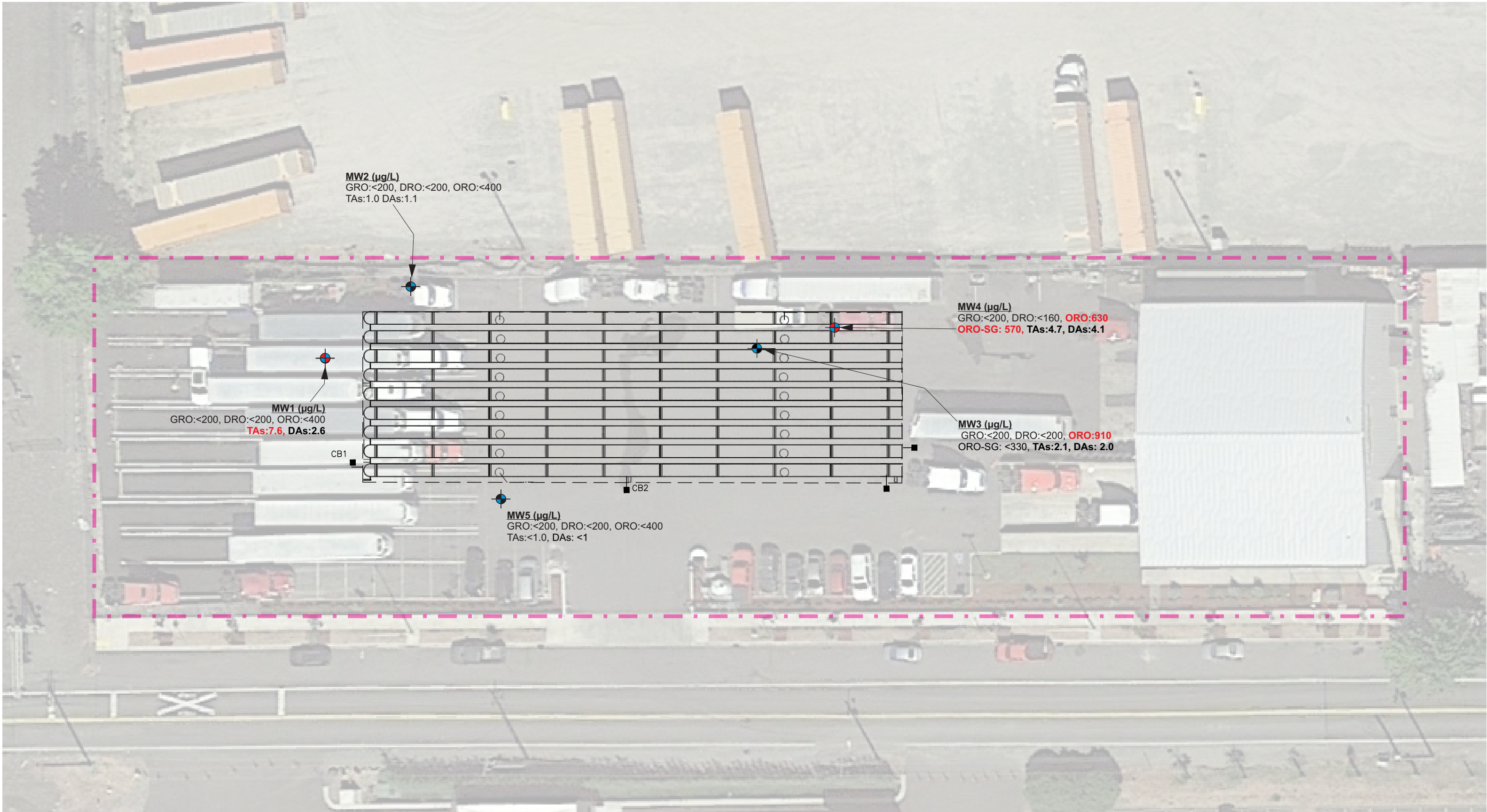
Figure No.:

01

Sheet 01 of 03



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Appendix B: Project Tables

Table 2: Summary of Monitoring Well Analytical Results

Table 3: Summary of Groundwater Elevations

Sample Number	Date Sampled	Total Petroleum Hydrocarbons (µg/l)				Select Volatile Organic Constituents (µg/l)				Metals (µg/l)								PCBs
		Gasoline	Diesel	Oil	Oil with Silica Gel	Benzene	Ethyl benzene	Toluene	Xylenes	EPA Method 7010 (AAGF)		EPA Method 6020B (ICP/MS)		Cadmium	Chromium	Copper	Lead	
										Total Arsenic	Dissolved Arsenic	Total Arsenic	Dissolved Arsenic					
Monitoring Well 1 (MW1)																		
MW1	3/30/2021	<100	<200	<400	--	<1	<1	<2	<2	6.4	<3.0	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	--	<1	<1	<2	<2	5.9	18	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	--	<1	<1	<2	<2	3.1	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	--	<1	<1	<2	<2	6.5	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	--	6.7	5.6	505*	3.27	--	--	--	--	--
	2/2/2024	<200	<500	<500	--	--	--	--	--	11.0	33.0	--	--	--	--	--	--	--
5/17/2024	<200	<200	<400	--	--	--	--	--	7.6	2.6	--	--	--	--	--	--	--	
Monitoring Well 2 (MW2)																		
MW2	3/30/2021	<100	<200	<400	--	<1	<1	<2	<2	6.9	<3.0	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	--	<1	<1	<2	<2	3.3	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	--	7.3	5.6	5.31	3.40	--	--	--	--	--
	2/2/2024	<200	<500	<500	--	--	--	--	--	7.2	18	--	--	--	--	--	--	--
5/17/2024	<200	<200	<400	--	--	--	--	--	1.0	1.1	--	--	--	--	--	--	--	
Monitoring Well 3 (MW3)																		
MW3	3/30/2021	<100	<200	<400	--	<1	<1	<2	<2	3.4	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	--	<1	<1	<2	<2	6.7	9.1	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	--	64	7.90	5.81	5.07	--	--	--	--	--
	2/2/2024	<200	<500	<500	--	--	--	--	--	13	26	--	--	--	--	--	--	--
5/17/2024	<200	<200	910	<330	--	--	--	--	2.1	2.0	--	--	--	--	--	--	--	
Monitoring Well 4 (MW4)																		
MW4	3/30/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	--	<1	<1	<2	<2	4.30	--	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	460	--	<1	<1	<2	<2	7.40	<3.0	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	--	<1	<1	<2	<2	19	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	1,500	--	--	--	--	--	64	12.00	6.79	6.86	--	--	--	--	--
	2/2/2024	<200	<500	390	--	--	--	--	--	13	34	--	--	--	--	--	--	--
5/17/2024	--	<160	630	570	--	--	--	--	4.7	4.1	--	--	--	--	--	--	--	

Sample Number	Date Sampled	Total Petroleum Hydrocarbons (µg/l)				Select Volatile Organic Constituents (µg/l)				Metals (µg/l)								PCBs
		Gasoline	Diesel	Oil	Oil with Silica Gel	Benzene	Ethyl benzene	Toluene	Xylenes	EPA Method 7010 (AAGF)		EPA Method 6020B (ICP/MS)		Cadmium	Chromium	Copper	Lead	
										Total Arsenic	Dissolved Arsenic	Total Arsenic	Dissolved Arsenic					
Monitoring Well 5 (MW5)																		
MW5	3/30/2021	<100	<200	<400	--	<1	<1	<2	<2	4.3	--	--	--	<0.5	<5	--	<5	<0.02
	6/15/2021	<100	<200	<400	--	<1	<1	<2	<2	17	23	--	--	<0.5	<5	--	<5	<0.02
	9/23/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	11/17/2021	<100	<200	<400	--	<1	<1	<2	<2	<3.0	--	--	--	<0.5	<5	--	<5	<0.02
	7/26/2023	<200	<500	<500	--	--	--	--	--	44	6.20	3.21	1.03	--	--	--	--	--
	2/2/2024	<200	<500	<500	--	--	--	--	--	<5.0	22	--	--	--	--	--	--	--
5/17/2024	<200	<200	<400	--	--	--	--	--	<1.0	<1.0	--	--	--	--	--	--	--	
Laboratory Reporting Limit		100	Varies (160/200/500)	400	330	1	1	2	2	3	3	1	1	0.5	5		5	0.02
Ecology MTCA Method A Cleanup Levels		800/1,000 ¹	500	500	500	5	700	1,000	1,000	5		5		5	50	NE	15	0.1

Notes:

(µg/l) = micrograms per liter

-- Not analyzed for constituent

< Not detected above the laboratory reporting limit

Red Bold and Shaded indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels

¹ Gasoline-Range Organics in groundwater: Gasoline mixtures without benzene and the total of ethylbenzene, toluene and xylene are less than 1% of the

* Lab reported the sample was extremely silty

Well	Elevation of TOC	Elevation Ground Surface	Latitude/Longitude		Date of Measurement	Depth to Water (feet)	Groundwater Elevation (feet)	Change in Elevation (feet)
			Latitude	Longitude				
MW1	48.61	48.81	47.370435	-122.232376	03/30/21	7.08	41.53	--
					06/15/21	8.14	40.47	1.06
					09/23/21	9.61	39.00	1.47
					11/17/21	5.74	42.87	-3.87
					07/26/23	10.25	38.36	4.51
					02/02/24	6.40	42.21	3.85
					05/17/24	8.22	40.39	-1.82
MW2	48.86	48.33	47.370499	-122.232244	03/30/21	7.43	41.43	--
					06/15/21	8.41	40.45	0.98
					09/23/21	9.65	39.21	1.24
					11/17/21	6.77	42.09	-2.88
					07/26/23	10.43	38.43	3.66
					02/02/24	6.97	41.89	3.46
					05/17/24	8.52	40.34	-1.55
MW3	48.85	48.60	47.370440	-122.231744	03/30/21	7.35	41.50	--
					06/15/21	8.04	40.81	0.69
					09/23/21	9.03	39.82	0.99
					11/17/21	6.94	41.91	-2.09
					07/26/23	9.74	39.11	2.80
					02/02/24	7.60	41.25	2.14
					05/17/24	8.35	40.50	-0.75
MW4	48.62	48.93	47.370461	-122.231631	03/30/21	7.50	41.12	--
					06/15/21	8.50	40.12	1.00
					09/23/21	10.30	38.32	1.80
					11/17/21	7.68	40.94	-2.62
					07/26/23	10.7	37.92	3.02
					02/02/24	7.50	41.12	3.20
					05/17/24	8.74	39.88	-1.24
MW5	49.00	49.45	47.370296	-122.232105	03/30/21	7.41	41.59	--
					06/15/21	8.20	40.80	0.79
					09/23/21	9.40	39.60	1.20
					11/17/21	6.99	42.01	-2.41
					07/26/23	10.06	38.94	3.07
					02/02/24	7.15	41.85	2.91
					05/17/24	8.43	40.57	-1.28

Notes:

TOC = Top of casing elevation relative to assigned benchmark.

-- = Not measured, not available, or not applicable

Appendix C: Project Documentation

Monitoring Well Sampling Logs

Appendix C

Project Documentation

Date: 5/17/2024

Project Name: BLT Q2 GWM		Project No.: 0611-01-09-02		Well No.: MW1		
Field Personnel: BNR		Static Water Level: 8.22				
Water Level Measurement Method: E-tape						
Time Start Purge: 1115		Time End Purge: 1140		Time Sampled: 1140		
Measuring Point Description: TOC-N						
Purge Method: Low Flow		Purge Depth: 13				
Well Volume Calculation (Fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Casing Diameter (in)	Water Column (ft)	Multiplier (1inch=0.0408g/ft; 2inch=0.1632g/ft)	Casing Volume (gal)
	13.9	8.22	1	5.68	0.0408	.23
	Notes: Well purged dry, allowed to recharge pump off between 1125 and 1130					
Time	1117	1125	1130	1135		
Depth to Water (ft)	12.5	12.89	11.05	11.98		
Volume Purged (g)	0.25	0.5	0.75	1		
pH (0.1)	6.51	6.40	6.35	6.35		
Temperature C. (3%)	13.50	12.60	12.40	12.40		
Conductivity uS/cm (3%)	367	359	371	364		
Turbidity (10%)	92.3	65.4	50.4	49.7		
Dissolved Oxygen (0.3)	3.74	3.93	1.84	2.28		
ORP	88.2	85.1	84.8	84.3		
Color	Clear	Clear	Clear	Clear		
Odor/Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen		
Comments: Well slow recharge, dropped purge to less than 1 foot off bottom, picked up silt, allowed to clear before beginning to take parameters						
Recovery %: 100		Depth to Water at Sampling (ft): 11.98		Note(s):		
Sampling / Field Equipment (Manufacture / Model / Last Calibration): Aquaread / 2000 / 5/10/2024						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)	
MW1-051724	1	2-500ml Amber, 1-250ml FF HNO ₃ Poly, 1-250ml HNO ₃ Poly	HNO ₃ , 1-FF 0.45micron	HCID, Total and Diss. As.	Clear	
Total Discharge (gal):1		Disposal Method: Drum Onsite		Drum Designation(s)/Volume: IDW-W		
<u>WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)</u>						
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / N O Well Casing: YES / NO						
Inside of Well Head and Outer Casing Dry: YES / NO						
Comments:						

Date: 5/17/2024

Project Name: BLT Q2 GWM		Project No.: 0611-01-09-02		Well No.: MW2		
Field Personnel: BNR		Static Water Level: 8.52				
Water Level Measurement Method: E-tape						
Time Start Purge: 1215		Time End Purge: 1140		Time Sampled: 1235		
Measuring Point Description: TOC-N						
Purge Method: Low Flow		Purge Depth: 12.38				
Well Volume Calculation (Fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Casing Diameter (in)	Water Column (ft)	Multiplier (1inch=0.0408g/ft; 2inch=0.1632g/ft)	Casing Volume (gal)
	14.38	8.52	1	5.86	0.0408	.24
	Notes:					
Time	1215	1220	1225	1230		
Depth to Water (ft)	8.52	9.38	9.38	9.38		
Volume Purged (g)	0.1	0.25	0.5	0.75		
pH (0.1)	6.89	6.59	6.56	6.51		
Temperature C. (3%)	12.73	11.60	11.50	11.50		
Conductivity uS/cm (3%)	207	206	212	211		
Turbidity (10%)	73.4	65.4	57.6	52.9		
Dissolved Oxygen (0.3)	0.98	0.42	0.25	0.20		
ORP	78.9	78.5	78.9	80.0		
Color	Clear	Clear	Clear	Clear		
Odor/Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen		
Comments:						
Recovery %: 100		Depth to Water at Sampling (ft): 9.38		Note(s):		
Sampling / Field Equipment (Manufacture / Model / Last Calibration): Aquaread / 2000 / 5/10/2024						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)	
MW2-051724	1	2-500ml Amber, 1-250ml FF HNO ₃ Poly, 1-250ml HNO ₃ Poly	HNO ₃ , 1-FF 0.45micron	HCID, Total and Diss. As.	Clear	
Total Discharge (gal):1		Disposal Method: Drum Onsite		Drum Designation(s)/Volume: IDW-W		
WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)						
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / N O Well Casing: YES / NO						
Inside of Well Head and Outer Casing Dry: YES / NO						
Comments:						

Date: 5/17/2024

Project Name: BLT Q2 GWM		Project No.: 0611-01-09-02		Well No.: MW3		
Field Personnel: BNR		Static Water Level: 8.35				
Water Level Measurement Method: E-tape						
Time Start Purge: 1014		Time End Purge: 1030		Time Sampled: 1030		
Measuring Point Description: TOC-N						
Purge Method: Low Flow		Purge Depth:				
Well Volume Calculation (Fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Casing Diameter (in)	Water Column (ft)	Multiplier (1inch=0.0408g/ft; 2inch=0.1632g/ft)	Casing Volume (gal)
	14.45	8.35	1	6.1	0.0408	.25
	Notes:					
Time	1014	1020	1026			
Depth to Water (ft)	8.8	8.74	8.74			
Volume Purged (g)	.1	.5	1			
pH (0.1)	6.82	6.85	6.85			
Temperature C. (3%)	13.60	13.30	13.30			
Conductivity uS/cm (3%)	328	334	339			
Turbidity (10%)	88.4	56.4	55.8			
Dissolved Oxygen (0.3)	2.17	0.62	0.55			
ORP	60.7	55.8	55.7			
Color	Clear	Clear	Clear			
Odor/Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen	Sulfur Odor/No Sheen			
Comments:						
Recovery %: 100		Depth to Water at Sampling (ft):8.74		Note(s):		
Sampling / Field Equipment (Manufacture / Model / Last Calibration): Aquaread / 2000 / 5/10/2024						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)	
MW	1	2-500ml Amber, 1-250ml FF HNO ₃ Poly, 1-250ml HNO ₃ Poly	HNO ₃ , 1-FF	HCID, Total and Diss. As.	Clear	
Total Discharge (gal):1		Disposal Method: Drum Onsite		Drum Designation(s)/Volume: IDW-W		
WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)						
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / N O Well Casing: YES / NO						
Inside of Well Head and Outer Casing Dry: YES / NO						
Comments:						

Date: 5/17/2024

Project Name: BLT Q2 GWM		Project No.: 0611-01-09-02		Well No.: MW4		
Field Personnel: BNR		Static Water Level: 8.74				
Water Level Measurement Method: E-tape						
Time Start Purge:0849		Time End Purge: 0930		Time Sampled: 0930		
Measuring Point Description: TOC-N						
Purge Method: Low Flow		Purge Depth: 14.37				
Well Volume Calculation (Fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Casing Diameter (in)	Water Column (ft)	Multiplier (1inch=0.0408g/ft; 2inch=0.1632g/ft)	Casing Volume (gal)
	14.37	8.74	1	5.63	0.0408	.23
Notes: Well purged dry, purge depth lowered to bottom of well						
Time	0925					
Depth to Water (ft)	14.37					
Volume Purged (g)	.5					
pH (0.1)	6.82					
Temperature C. (3%)	13.30					
Conductivity uS/cm (3%)	262					
Turbidity (10%)	72.3					
Dissolved Oxygen (0.3)	10.57					
ORP	57.0					
Color	Clear					
Odor/Sheen	Sulfur/No Sheen					
Comments:						
Recovery %: 100		Depth to Water at Sampling (ft): 14.37		Note(s):		
Sampling / Field Equipment (Manufacture / Model / Last Calibration): Aquaread / 2000 / 5/10/2024						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)	
MW4-051724	1	2-500ml Amber, 1-250ml FF HNO ₃ Poly, 1-250ml HNO ₃ Poly	HNO ₃ , 1-FF 0.45micron	HCID, Total and Diss. As.	Clear	
Total Discharge (gal): 4		Disposal Method: Drum Onsite		Drum Designation(s)/Volume: IDW-W		
WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)						
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / N O Well Casing: YES / NO						
Inside of Well Head and Outer Casing Dry: YES / NO						
Comments:						

Date: 5/17/2024

Project Name: BLT Q2 GWM		Project No.: 0611-01-09-02		Well No.: MW5		
Field Personnel: BNR		Static Water Level: 8.43				
Water Level Measurement Method: E-tape						
Time Start Purge: 1315		Time End Purge: 1345		Time Sampled: 1345		
Measuring Point Description: TOC-N						
Purge Method: Low Flow		Purge Depth: 12.4				
Well Volume Calculation (Fill in before purging)	Total Depth (ft)	Depth to Water (ft)	Casing Diameter (in)	Water Column (ft)	Multiplier (1inch=0.0408g/ft; 2inch=0.1632g/ft)	Casing Volume (gal)
	14.40	8.43	1	5.97	0.0408	0.24
	Notes:					
Time	1325	1330	1335			
Depth to Water (ft)	8.52	9.39	9.38			
Volume Purged (g)	0.5	0.75	1			
pH (0.1)	6.60	6.60	6.61			
Temperature C. (3%)	13.93	13.80	14.00			
Conductivity uS/cm (3%)	390	397	397			
Turbidity (10%)	78.3	65.4	57.6			
Dissolved Oxygen (0.3)	0.40	0.26	0.25			
ORP	86.2	86.2	86.3			
Color	Clear	Clear	Clear			
Odor/Sheen	Sulfur odor/No Sheen	Sulfur odor/No Sheen	Sulfur odor/No Sheen			
Comments:						
Recovery %: 100		Depth to Water at Sampling (ft): 9.38		Note(s):		
Sampling / Field Equipment (Manufacture / Model / Last Calibration): Aquaread / 2000 / 5/10/2024						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sampling / Field Equipment (Manufacture / Model / Last Calibration): / /						
Sample No.	Sample Quantity	Container Type 40 mL VOA/500 mL Amber / 1 L Amber / 250 mL Poly	Preservative / Field Filtered (FF)	Analysis Request	Visual Observation (Clear, Cloudy, Silty, Etc.)	
MW5-051724	1	2-500ml Amber, 1-250ml FF HNO ₃ Poly, 1-250ml HNO ₃ Poly	HNO ₃ , 1-FF 0.45 micron	HCID, Total and Diss. As.	Clear	
Total Discharge (gal): 1		Disposal Method: drum on site		Drum Designation(s)/Volume: IDW-W		
WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)						
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / N O Well Casing: YES / NO						
Inside of Well Head and Outer Casing Dry: YES / NO						
Comments:						

Appendix D: Project Analytical Results

Laboratory Analytical Reports

Sample Chain of Custody

Appendix D Project Analytical Results



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

Phone (360) 352-2110 • libbyenv@gmail.com

June 03, 2024

Chanel Long
ECI
PO Box 153
Fox Island, WA 98333

RE: 0611-01-10-BLT Q2 GWM
Work Order Number: L24E058

Enclosed are the results of analyses for samples received by our laboratory on 5/17/2024.

Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry Chilcutt
Senior Chemist

SAMPLE CHAIN OF CUSTODY

Report To CHANEL LONG/BRAD REILLY
 Company ECI
 Address P.O. Box 153
 City, State, ZIP FOX ISLAND, WA 98333
 Phone 2532389270 Email CHANEL@ALLECI.COM
BRAD@ALLECI.COM

SAMPLERS (signature)	
PROJECT NAME <u>061-01-10-BLT 02 GWM</u>	PO #
REMARKS	INVOICE TO
Project specific RLs? - Yes / No	

Page # _____ of _____

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
☐ Archive samples
☐ Other _____
 Default: Dispose after 30 days

ANALYSES REQUESTED															
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TOTAL ARSENIC	DISS. ARSENIC	Notes
MW1-051724		5/17	1140	420	7				X				X	X	
MW2-051724		↓	1235	↓	↓				↓				↓	↓	
MW3-051724			1030	↓	↓				↓				↓	↓	
MW4-051724					↓	↓	X								
MW5-051724			↓	1345	↓	↓				X				↓	↓

Friedman & Bruya, Inc.
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	BRAD REILLY	ECI	5/17	1444
Received by:	Jodie Childress	Libby	5/17	1444
Relinquished by:				
Received by:				



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Notes and Definitions

Item	Definition
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier

All results reported on an "as received" basis unless indicated by "Dry"

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L24E058-01	MW1-051724	Water	05/17/2024	05/17/2024
L24E058-02	MW2-051724	Water	05/17/2024	05/17/2024
L24E058-03	MW3-051724	Water	05/17/2024	05/17/2024
L24E058-04	MW4-051724	Water	05/17/2024	05/17/2024
L24E058-05	MW5-051724	Water	05/17/2024	05/17/2024



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: MW3-051724			Lab#: L24E058-03		
Oil	910		ug/L	330	NWTPH-Dx/Dx
Oil	DET		ug/L	400	NWTPH-HCID
Sample: MW4-051724			Lab#: L24E058-04		
Oil	630		ug/L	330	NWTPH-Dx/Dx
Oil	570		ug/L	330	NWTPH-Dx/Dx

Note: If no entry is made, then no target compounds were detected.



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Sample Results

Client Sample ID: MW1-051724

Lab ID: L24E058-01 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
---------	--------	------	----	-------	---------------	------------------

HCID by NWTPH-HCID

Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		200	ug/L	05/22/2024	KLI
Oil	ND		400	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	86.6%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Sample Results (Continued)

Client Sample ID: MW2-051724

Lab ID: L24E058-02 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		200	ug/L	05/22/2024	KLI
Oil	ND		400	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	93.3%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Sample Results (Continued)

Client Sample ID: MW3-051724

Lab ID: L24E058-03 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		200	ug/L	05/22/2024	KLI
Oil	DET		400	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	84.9%		46.7-121		05/22/2024	KLI
<u>Diesel and Oil by NWTPH-Dx/Dx</u>						
Diesel	ND		160	ug/L	05/22/2024	KLI
Oil	910		330	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	84.9%		46.7-121		05/22/2024	KLI
<u>Diesel and Oil by NWTPH-Dx/Dx w/Silica Gel Clean-up</u>						
Diesel	ND		160	ug/L	05/30/2024	KLI
Oil	ND		330	ug/L	05/30/2024	KLI
Surrogate: 2-FBP	89.6%		46.7-121		05/30/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Sample Results (Continued)

Client Sample ID: MW4-051724

Lab ID: L24E058-04 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Diesel and Oil by NWTPH-Dx/Dx</u>						
Diesel	ND		160	ug/L	05/22/2024	KLI
Oil	630		330	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	84.2%		46.7-121		05/22/2024	KLI
<u>Diesel and Oil by NWTPH-Dx/Dx w/Silica Gel Clean-up</u>						
Diesel	ND		160	ug/L	05/30/2024	KLI
Oil	570		330	ug/L	05/30/2024	KLI
Surrogate: 2-FBP	90.1%		46.7-121		05/30/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Sample Results (Continued)

Client Sample ID: MW5-051724

Lab ID: L24E058-05 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		200	ug/L	05/22/2024	KLI
Oil	ND		400	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	81.9%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Quality Control

HCID by NWTPH-HCID

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BYE0090 - Extraction										
Blank (BYE0090-BLK1)					Prepared & Analyzed: 5/22/2024					
Gasoline	ND		200	ug/L						
Diesel	ND		200	ug/L						
Oil	ND		400	ug/L						
Surrogate: 2-FBP			21.2	ug/mL	20.0		106	46.7-121		
LCS (BYE0090-BS1)					Prepared & Analyzed: 5/22/2024					
Diesel	DET		200	ug/L	1000		92.8	64.4-119		
Surrogate: 2-FBP			21.0	ug/mL	20.0		105	46.7-121		
Duplicate (BYE0090-DUP1)					Parent: L24E058-02 Prepared & Analyzed: 5/22/2024					
Gasoline	ND		200	ug/L		ND				35
Diesel	ND		200	ug/L		ND				35
Oil	ND		400	ug/L		ND				35
Surrogate: 2-FBP			17.3	ug/mL	20.0		86.6	46.7-121		



Libby Environmental, Inc.

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PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Quality Control (Continued)

Diesel and Oil by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BYE0090 - Extraction										
Blank (BYE0090-BLK1)										
Diesel	ND		200	ug/L						
Oil	ND		400	ug/L						
Surrogate: 2-FBP			21.2	ug/mL	20.0		106	46.7-121		
LCS (BYE0090-BS1)										
Diesel	928		200	ug/L	1000		92.8	64.4-119		
Surrogate: 2-FBP			21.0	ug/mL	20.0		105	46.7-121		
Duplicate (BYE0090-DUP1)										
Parent: L24E058-02										
Diesel	ND		160	ug/L		ND				35
Oil	ND		330	ug/L		ND				35
Surrogate: 2-FBP			17.3	ug/mL	20.0		86.6	46.7-121		



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 06/03/2024 14:28

Quality Control (Continued)

Diesel and Oil by NWTPH-Dx/Dx w/Silica Gel Clean-up

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BYE0117 - Extraction										
Blank (BYE0117-BLK1)										
Diesel	ND		200	ug/L						
Oil	ND		400	ug/L						
Surrogate: 2-FBP			20.5	ug/mL	20.0		102	46.7-121		
LCS (BYE0117-BS1)										
Diesel	1080		200	ug/L	1000		108	64.4-119		
Surrogate: 2-FBP			21.9	ug/mL	20.0		110	46.7-121		
LCS Dup (BYE0117-BSD1)										
Diesel	1060		200	ug/L	1000		106	64.4-119	1.91	35
Surrogate: 2-FBP			22.0	ug/mL	20.0		110	46.7-121		

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

0611-01-10-BLT Q2 GWM Project

Phone: (360) 352-2110

ECI

FAX: (360) 352-4154

Libby Work Order # L24E058

Email: libbyenv@gmail.com

Date Received 5/17/2024

Time Received 2:44 PM

Received By JC

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete? ☒ Yes ☐ No
2. How was the sample delivered? ☐ Hand Delivered ☒ Picked Up ☐ Shipped

Log In

3. Cooler or Shipping Container is present. ☒ Yes ☐ No ☐ N/A
4. Cooler or Shipping Container is in good condition. ☒ Yes ☐ No ☐ N/A
5. Cooler or Shipping Container has Custody Seals present. ☐ Yes ☒ No ☐ N/A
6. Was an attempt made to cool the samples? ☒ Yes ☐ No ☐ N/A
7. Temperature of cooler (0°C to 8°C recommended) -0.7 °C
8. Temperature of sample(s) (0°C to 8°C recommended) 4.9 °C
9. Did all containers arrive in good condition (unbroken)? ☒ Yes ☐ No
10. Is it clear what analyses were requested? ☒ Yes ☐ No
11. Did container labels match Chain of Custody? ☒ Yes ☐ No
12. Are matrices correctly identified on Chain of Custody? ☒ Yes ☐ No
13. Are correct containers used for the analysis indicated? ☒ Yes ☐ No
14. Is there sufficient sample volume for indicated analysis? ☒ Yes ☐ No
15. Were all containers properly preserved per each analysis? ☒ Yes ☐ No
16. Were VOA vials collected correctly (no headspace)? ☒ Yes ☐ No ☐ N/A
17. Were all holding times able to be met? ☒ Yes ☐ No

Discrepancies/ Notes

18. Was client notified of all discrepancies? ☒ Yes ☐ No ☐ N/A
- Person Notified: Brad Reilly Date: 17-May
- By Whom: JC Via: In Person
- Regarding: Spilled container
19. Comments. MW5 INFF cap was not secure. Some volume spilled. Remaining volume was more than
enough to proceed with analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

May 29, 2024

Sherry Chilcutt, Project Manager
Libby Environmental
3322 South Bay Rd NE
Olympia, WA 98506

Dear Ms Chilcutt:

Included are the results from the testing of material submitted on May 21, 2024 from the 0611-01-10-BLT Q2 GWM, F&BI 405361 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
LBY0529R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 21, 2024 by Friedman & Bruya, Inc. from the Libby Environmental 0611-01-10-BLT Q2 GWM, F&BI 405361 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Libby Environmental</u>
405361 -01	MW1-051724
405361 -02	MW2-051724
405361 -03	MW3-051724
405361 -04	MW4-051724
405361 -05	MW5-051724

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW1-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-01
Date Analyzed:	05/22/24	Data File:	405361-01.100
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	7.6
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW2-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-02
Date Analyzed:	05/22/24	Data File:	405361-02.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	1.0
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW3-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-03
Date Analyzed:	05/24/24	Data File:	405361-03.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW4-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-04
Date Analyzed:	05/24/24	Data File:	405361-04.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	4.7
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW5-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-05
Date Analyzed:	05/24/24	Data File:	405361-05.097
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	I4-416 mb
Date Analyzed:	05/22/24	Data File:	I4-416 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW1-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-01
Date Analyzed:	05/22/24	Data File:	405361-01.179
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.6
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW2-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-02
Date Analyzed:	05/23/24	Data File:	405361-02.225
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	1.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW3-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-03
Date Analyzed:	05/23/24	Data File:	405361-03.226
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.0
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW4-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-04
Date Analyzed:	05/23/24	Data File:	405361-04.227
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	4.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW5-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-05
Date Analyzed:	05/23/24	Data File:	405361-05.228
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	I4-420 mb
Date Analyzed:	05/22/24	Data File:	I4-420 mb.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/24

Date Received: 05/21/24

Project: 0611-01-10-BLT Q2 GWM, F&BI 405361

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 405289-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	89	91	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/24

Date Received: 05/21/24

Project: 0611-01-10-BLT Q2 GWM, F&BI 405361

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 405361-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	2.64	91 b	92 b	75-125	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	89	80-120

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

**SUBCONTRACT
ORDER
L24E058**

405361

05/21/24 K3

Sending Laboratory:

Libby Environmental, Inc.
3322 South Bay Road NE
Olympia, WA 98506
Phone: 360-352-2110
Fax: 360-352-4154

Project Manager: Sherry Chilcutt
LibbyEnv@gmail.com

Subcontracted Laboratory:

Friedman & Bruya, Inc.
5500 4th Avenue S
Seattle, WA 98108
Phone: (206) 285-8282
Fax:

Requested Turnaround (TAT) STD

Project: 0611-01-10-BLT Q2 GWM

Analysis	Comments	Lab ID
Client Sample ID: MW1-051724 Water Sampled: 05/17/2024 11:40		
Metals SUB As	Total and Dissolved	01A-B Lab ID: L24E058-01
Containers Supplied:		
Client Sample ID: MW2-051724 Water Sampled: 05/17/2024 12:35		
Metals SUB As	Total and Dissolved	02A-B Lab ID: L24E058-02
Containers Supplied:		
Client Sample ID: MW3-051724 Water Sampled: 05/17/2024 10:30		
Metals SUB As	Total and Dissolved	03A-B Lab ID: L24E058-03
Containers Supplied:		
Client Sample ID: MW4-051724 Water Sampled: 05/17/2024 00:00		
Metals SUB As	Total and Dissolved	04A-B Lab ID: L24E058-04
Containers Supplied:		
Client Sample ID: MW5-051724 Water Sampled: 05/17/2024 13:45		
Metals SUB As	Total and Dissolved	05A-B Lab ID: L24E058-05
Containers Supplied:		

Samples received at 1 °C

Released By [Signature]

5-20-24
Date

[Signature] ANH PHAN
Received By

05/21/24
Date @ 10:50

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 405361 CLIENT LBV INITIALS/ AP
DATE: 05/21/24

If custody seals are present on cooler, are they intact? ☐ NA ☐ YES ☐ NO

Cooler/Sample temperature _____ °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☒ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 05/21/24

Number of days samples have been sitting prior to receipt at laboratory 4 days

Are the samples clearly identified? (explain "no" answer below) ☐ YES ☒ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>AP</u> <input checked="" type="checkbox"/> Not on COC (label)
Date Sampled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>Except 01A, 01B, 03A, 03B, 04A, 04B</u> <input checked="" type="checkbox"/> Not on COC (label)
Time Sampled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Not on COC (label)
# of Containers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Requested analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

Phone (360) 352-2110 • libbyenv@gmail.com

May 29, 2024

Chanel Long
ECI
PO Box 153
Fox Island, WA 98333

RE: 0611-01-10-BLT Q2 GWM
Work Order Number: L24E058

Enclosed are the results of analyses for samples received by our laboratory on 5/17/2024.

Applicable detection limits and QA/QC data are included. The sample(s) will be disposed of within 30 days unless we are contacted to arrange long term storage.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please feel free to contact us. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry Chilcutt
Senior Chemist

SAMPLE CHAIN OF CUSTODY

Report To CHANEL LONG/BRAD REILLY
 Company ECI
 Address P.O. Box 153
 City, State, ZIP FOX ISLAND, WA 98333
 Phone 2532389270 Email CHANEL@ALLECI.COM
BRAD@ALLECI.COM

SAMPLERS (signature)	
PROJECT NAME <u>061-01-10-BLT 02 GWM</u>	PO #
REMARKS	INVOICE TO
Project specific RLs? - Yes / No	

Page # _____ of _____

TURNAROUND TIME
☒ Standard turnaround
☐ RUSH
 Rush charges authorized by: _____

SAMPLE DISPOSAL
☐ Archive samples
☐ Other _____
 Default: Dispose after 30 days

ANALYSES REQUESTED															
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TOTAL ARSENIC	DISS. ARSENIC	Notes
MW1-051724		5/17	1140	420	7				X				X	X	
MW2-051724		↓	1235	↓	↓				↓				↓	↓	
MW3-051724			1030						↓						
MW4-051724						X									
MW5-051724		↓	1345	↓	↓				X				↓	↓	

Friedman & Bruya, Inc.
 Ph. (206) 285-8282

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	BRAD REILLY	ECI	5/17	1444
Received by:	Jodie Childress	Libby	5/17	1444
Relinquished by:				
Received by:				



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Notes and Definitions

Item	Definition
RL	Reporting Limit
ND	Analyte NOT DETECTED at or above the reporting limit
DET	Analyte DETECTED at or above the reporting limit
Qual	Qualifier

All results reported on an "as received" basis unless indicated by "Dry"

Work Order Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
L24E058-01	MW1-051724	Water	05/17/2024	05/17/2024
L24E058-02	MW2-051724	Water	05/17/2024	05/17/2024
L24E058-03	MW3-051724	Water	05/17/2024	05/17/2024
L24E058-04	MW4-051724	Water	05/17/2024	05/17/2024
L24E058-05	MW5-051724	Water	05/17/2024	05/17/2024



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Libby Environmental Sample Detection Summary

Analyte	Result	Qual	Units	RL	Method
Sample: MW3-051724			Lab#: L24E058-03		
Oil	DET		ug/L	500	NWTPH-HCID
Sample: MW4-051724			Lab#: L24E058-04		
Oil	630		ug/L	330	NWTPH-Dx/Dx

Note: If no entry is made, then no target compounds were detected.



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Sample Results

Client Sample ID: MW1-051724

Lab ID: L24E058-01 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
---------	--------	------	----	-------	---------------	------------------

HCID by NWTPH-HCID

Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		500	ug/L	05/22/2024	KLI
Oil	ND		500	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	86.6%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Sample Results (Continued)

Client Sample ID: MW2-051724

Lab ID: L24E058-02 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		500	ug/L	05/22/2024	KLI
Oil	ND		500	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	93.3%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Sample Results (Continued)

Client Sample ID: MW3-051724

Lab ID: L24E058-03 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		500	ug/L	05/22/2024	KLI
Oil	DET		500	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	84.9%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Sample Results (Continued)

Client Sample ID: MW4-051724

Lab ID: L24E058-04 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>Diesel and Oil by NWTPH-Dx/Dx</u>						
Diesel	ND		160	ug/L	05/22/2024	KLI
Oil	630		330	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	84.2%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Sample Results (Continued)

Client Sample ID: MW5-051724

Lab ID: L24E058-05 (Water)

Analyte	Result	Qual	RL	Units	Date Analyzed	Analyst Initials
<u>HCID by NWTPH-HCID</u>						
Gasoline	ND		200	ug/L	05/22/2024	KLI
Diesel	ND		500	ug/L	05/22/2024	KLI
Oil	ND		500	ug/L	05/22/2024	KLI
Surrogate: 2-FBP	81.9%		46.7-121		05/22/2024	KLI



Libby Environmental, Inc.

ECI
PO Box 153
Fox Island, WA 98333

Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Quality Control

HCID by NWTPH-HCID

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	----	-------	-------------	---------------	------	-------------	-----	-----------

Batch: BYE0090 - Extraction

Blank (BYE0090-BLK1)

Prepared & Analyzed: 5/22/2024

Gasoline	ND		200	ug/L						
Diesel	ND		500	ug/L						
Oil	ND		500	ug/L						
Surrogate: 2-FBP			21.2	ug/mL	20.0		106	46.7-121		

LCS (BYE0090-BS1)

Prepared & Analyzed: 5/22/2024

Diesel	DET		500	ug/L	1000		92.8	64.4-119		
Surrogate: 2-FBP			21.0	ug/mL	20.0		105	46.7-121		

Duplicate (BYE0090-DUP1)

Parent: L24E058-02

Prepared & Analyzed: 5/22/2024

Gasoline	ND		200	ug/L		ND				35
Diesel	ND		500	ug/L		ND				35
Oil	ND		500	ug/L		ND				35
Surrogate: 2-FBP			17.3	ug/mL	20.0		86.6	46.7-121		



Libby Environmental, Inc.

ECI
PO Box 153
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Project: 0611-01-10-BLT Q2 GWM
Project Number: 0611-01-10-BLT Q2 GWM
Project Manager: Chanel Long

City/State: Kent, WA
Work Order: L24E058
Reported: 05/29/2024 10:52

Quality Control (Continued)

Diesel and Oil by NWTPH-Dx/Dx

Analyte	Result	Qual	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BYE0090 - Extraction										
Blank (BYE0090-BLK1)										
Diesel	ND		200	ug/L						
Oil	ND		400	ug/L						
Surrogate: 2-FBP			21.2	ug/mL	20.0		106	46.7-121		
LCS (BYE0090-BS1)										
Diesel	928		200	ug/L	1000		92.8	64.4-119		
Surrogate: 2-FBP			21.0	ug/mL	20.0		105	46.7-121		
Duplicate (BYE0090-DUP1)										
Parent: L24E058-02										
Diesel	ND		160	ug/L		ND				35
Oil	ND		330	ug/L		ND				35
Surrogate: 2-FBP			17.3	ug/mL	20.0		86.6	46.7-121		

Libby Environmental, Inc.

3322 South Bay Road NE

Olympia, WA 98506

Phone: (360) 352-2110

FAX: (360) 352-4154

Email: libbyenv@gmail.com

0611-01-10-BLT Q2 GWM Project

ECI

Libby Work Order # L24E058

Date Received 5/17/2024

Time Received 2:44 PM

Received By JC

Sample Receipt Checklist

Chain of Custody

1. Is the Chain of Custody is complete? ☒ Yes ☐ No
2. How was the sample delivered? ☐ Hand Delivered ☒ Picked Up ☐ Shipped

Log In

3. Cooler or Shipping Container is present. ☒ Yes ☐ No ☐ N/A
4. Cooler or Shipping Container is in good condition. ☒ Yes ☐ No ☐ N/A
5. Cooler or Shipping Container has Custody Seals present. ☐ Yes ☒ No ☐ N/A
6. Was an attempt made to cool the samples? ☒ Yes ☐ No ☐ N/A
7. Temperature of cooler (0°C to 8°C recommended) -0.7 °C
8. Temperature of sample(s) (0°C to 8°C recommended) 4.9 °C
9. Did all containers arrive in good condition (unbroken)? ☒ Yes ☐ No
10. Is it clear what analyses were requested? ☒ Yes ☐ No
11. Did container labels match Chain of Custody? ☒ Yes ☐ No
12. Are matrices correctly identified on Chain of Custody? ☒ Yes ☐ No
13. Are correct containers used for the analysis indicated? ☒ Yes ☐ No
14. Is there sufficient sample volume for indicated analysis? ☒ Yes ☐ No
15. Were all containers properly preserved per each analysis? ☒ Yes ☐ No
16. Were VOA vials collected correctly (no headspace)? ☒ Yes ☐ No ☐ N/A
17. Were all holding times able to be met? ☒ Yes ☐ No

Discrepancies/ Notes

18. Was client notified of all discrepancies? ☒ Yes ☐ No ☐ N/A

Person Notified: Brad Reilly

Date: 17-May

By Whom: JC

Via: In Person

Regarding: Spilled container

19. Comments. MW5 INFF cap was not secure. Some volume spilled. Remaining volume was more than
enough to proceed with analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Ave South
Seattle, WA 98108-2419
(206) 285-8282
office@friedmanandbruya.com
www.friedmanandbruya.com

May 29, 2024

Sherry Chilcutt, Project Manager
Libby Environmental
3322 South Bay Rd NE
Olympia, WA 98506

Dear Ms Chilcutt:

Included are the results from the testing of material submitted on May 21, 2024 from the 0611-01-10-BLT Q2 GWM, F&BI 405361 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
LBY0529R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 21, 2024 by Friedman & Bruya, Inc. from the Libby Environmental 0611-01-10-BLT Q2 GWM, F&BI 405361 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Libby Environmental</u>
405361 -01	MW1-051724
405361 -02	MW2-051724
405361 -03	MW3-051724
405361 -04	MW4-051724
405361 -05	MW5-051724

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW1-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-01
Date Analyzed:	05/22/24	Data File:	405361-01.100
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	7.6
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW2-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-02
Date Analyzed:	05/22/24	Data File:	405361-02.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	1.0
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW3-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-03
Date Analyzed:	05/24/24	Data File:	405361-03.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW4-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-04
Date Analyzed:	05/24/24	Data File:	405361-04.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	4.7
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW5-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	405361-05
Date Analyzed:	05/24/24	Data File:	405361-05.097
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/21/24	Lab ID:	I4-416 mb
Date Analyzed:	05/22/24	Data File:	I4-416 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW1-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-01
Date Analyzed:	05/22/24	Data File:	405361-01.179
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.6
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW2-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-02
Date Analyzed:	05/23/24	Data File:	405361-02.225
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	1.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW3-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-03
Date Analyzed:	05/23/24	Data File:	405361-03.226
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	2.0
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW4-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-04
Date Analyzed:	05/23/24	Data File:	405361-04.227
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	4.1
---------	-----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW5-051724	Client:	Libby Environmental
Date Received:	05/21/24	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	405361-05
Date Analyzed:	05/23/24	Data File:	405361-05.228
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Libby Environmental
Date Received:	Not Applicable	Project:	0611-01-10-BLT Q2 GWM
Date Extracted:	05/22/24	Lab ID:	I4-420 mb
Date Analyzed:	05/22/24	Data File:	I4-420 mb.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
---------	----

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/24

Date Received: 05/21/24

Project: 0611-01-10-BLT Q2 GWM, F&BI 405361

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 405289-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	89	91	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	91	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/29/24

Date Received: 05/21/24

Project: 0611-01-10-BLT Q2 GWM, F&BI 405361

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 405361-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	2.64	91 b	92 b	75-125	1 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	89	80-120

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

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

cf - The sample was centrifuged prior to analysis.

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

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

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

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

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

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

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

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

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

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

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

k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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

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

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

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

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

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

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



Libby Environmental, Inc.

3322 South Bay Road NE • Olympia, WA 98506-2957

**SUBCONTRACT
ORDER
L24E058**

405361

05/21/24 K3

Sending Laboratory:

Libby Environmental, Inc.
3322 South Bay Road NE
Olympia, WA 98506
Phone: 360-352-2110
Fax: 360-352-4154

Project Manager: Sherry Chilcutt
LibbyEnv@gmail.com

Subcontracted Laboratory:

Friedman & Bruya, Inc.
5500 4th Avenue S
Seattle, WA 98108
Phone: (206) 285-8282
Fax:

Requested Turnaround (TAT) STD

Project: 0611-01-10-BLT Q2 GWM

Analysis	Comments	Lab ID
Client Sample ID: MW1-051724 <i>Water</i> Sampled: 05/17/2024 11:40		01A-B Lab ID: L24E058-01
Metals SUB As	Total and Dissolved	
Containers Supplied:		
Client Sample ID: MW2-051724 <i>Water</i> Sampled: 05/17/2024 12:35		02A-B Lab ID: L24E058-02
Metals SUB As	Total and Dissolved	
Containers Supplied:		
Client Sample ID: MW3-051724 <i>Water</i> Sampled: 05/17/2024 10:30		03A-B Lab ID: L24E058-03
Metals SUB As	Total and Dissolved	
Containers Supplied:		
Client Sample ID: MW4-051724 <i>Water</i> Sampled: 05/17/2024 00:00		04A-B Lab ID: L24E058-04
Metals SUB As	Total and Dissolved	
Containers Supplied:		
Client Sample ID: MW5-051724 <i>Water</i> Sampled: 05/17/2024 13:45		05A-B Lab ID: L24E058-05
Metals SUB As	Total and Dissolved	
Containers Supplied:		

Samples received at 1 °C

Released By [Signature]

5-20-24
Date

[Signature] ANH PHAN
Received By

05/21/24
Date @ 10:50

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 405361 CLIENT LBV INITIALS/ AP
DATE: 05/21/24

If custody seals are present on cooler, are they intact? ☐ NA ☐ YES ☐ NO

Cooler/Sample temperature 1 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☒ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☒ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☒ YES ☐ NO Initials/ AP
*or other representative documents, letters, and/or shipping memos Date: 05/21/24

Number of days samples have been sitting prior to receipt at laboratory 4 days

Are the samples clearly identified? (explain "no" answer below) ☐ YES ☒ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☒ YES ☐ NO

Were appropriate sample containers used? ☒ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☒ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☒ NA ☐ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>AP</u> <input checked="" type="checkbox"/> Not on COC/label
Date Sampled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>Except 01A, 01B, 03A, 03B, 04A, 04B</u> <input checked="" type="checkbox"/> Not on COC/label
Time Sampled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>↓</u> <input checked="" type="checkbox"/> Not on COC/label
# of Containers	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Requested analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☒ NA ☐ YES ☐ NO

Number of unused TO15 canisters _____ Number of unused TO17 tubes _____