## Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report



### **Prepared for**

The Weyerhaeuser Company 220 Occidental Avenue South Seattle, Washington 98104

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### **Supplemental Upland Remedial Investigation Data Summary Report**

This document was prepared for The Weyerhaeuser Company under the supervision of:



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### **List of Acronyms and Abbreviations**

Acronym/ Abbreviation	Definition
AO	Agreed Order
bgs	Below ground surface
CAP	Cleanup Action Plan
CD	Consent Decree No. 98-2-08718-6
COC	Chemical of concern
CPOC	Conditional point of compliance
CUL	Cleanup level
Draft RI	Draft Remedial Investigation Report
Ecology	Washington State Department of Ecology
FFS	Focused Feasibility Study
GSI	GSI Water Solutions, Inc.
IDW	Investigation-derived waste

Acronym/

Abbreviation Definition

MAP #2 M.A.P. #2, LLC

μg/L Micrograms per liter

mg/kg Milligrams per kilogram

NAVD 88 North American Vertical Datum of 1988

NTU Nephelometric turbidity units

PCMP Performance Compliance Monitoring Plan

penta Pentachlorophenol

PVC Polyvinyl chloride

QAPP Quality Assurance Project Plan

S:L Solid-to-liquid

Site Former Mill E/Koppers Facility in Everett, Washington

SRI Supplemental Upland Remedial Investigation

SRI Work Plan Supplemental Upland Remedial Investigation Work Plan

Stratus Corporation

TOC Top of casing

TPH Total petroleum hydrocarbons

USCS United Soil Classification System

WAC Washington Administrative Code

Weyerhaeuser Company

XRD X-ray diffraction

### 1.0 Introduction

This Supplemental Upland Remedial Investigation (SRI) Data Summary Report presents the soil and groundwater data collected at the Former Mill E/Koppers Facility in Everett, Washington, (Site) in accordance with the requirements of the Supplemental Upland Remedial Investigation Work Plan (SRI Work Plan), which is Exhibit B to Agreed Order (AO) No. DE 16129 executed between the Washington State Department of Ecology (Ecology), the Weyerhaeuser Company (Weyerhaeuser), and M.A.P. #2, LLC (MAP #2) in August 2020. Figure 1.1 shows the geographic location of the Site, which is within the boundaries of the Everett Smelter Lowland Area.

The Site is directly adjacent to and bounded by the Snohomish River to the east and south. To the west and north are located several commercial and industrial properties that include Republic Services, FedEx Freight, and Amazon. The surrounding properties are shown on Figure 1.2.

### 1.1 SITE OWNERSHIP AND OPERATIONS SUMMARY

The Site is located on Snohomish County Parcel 29051600200500 in Everett, Washington, and is approximately 8.4 acres. Weyerhaeuser is a former owner and operator of the Site. In 1946, Weyerhaeuser leased a 6.6-acre portion of the property along the west bank of the Snohomish River to American Lumber and Treating Company (and then Koppers Company), who used the Site for wood treatment until 1963. In 1971, Weyerhaeuser constructed Mill E, a small lumber mill, which operated on the Mill E property until 1984; it was dismantled in 1988.

In 2005, Weyerhaeuser sold the property to MAP #2/Pacific Topsoils, who owned the Site and used it for parking and light storage until 2020. In September 2020, Gro-Well Environmental Partners, LLC purchased MAP #2/Pacific Topsoils. The Site is currently vacant (no improvements) and is used primarily by Amazon (as a lessee) for their delivery vehicle fleet parking on the asphalt cap portion of the Site. The soil cap area is also used for temporary storage on an as-needed basis. Pertinent Site features, including those associated with former operations, are shown on Figure 1.3.

### 1.2 REGULATORY BACKGROUND

Cleanup actions were completed by Weyerhaeuser in 1999, in accordance with the 1998 Cleanup Action Plan (CAP) and Consent Decree No. 98-2-08718-6 (CD). As part of the remedy selected by Ecology in the CD and CAP, Weyerhaeuser installed a barrier wall at the Site in 1999. The barrier wall surrounds the contained area of contamination in shallow fill material and an Upper Sand Aquifer, which extend to depths of approximately 6 to 10 feet below ground surface (bgs). The barrier wall is embedded in a low permeability Upper Silt Aquitard below this unit. A Lower Sand Aquifer is present beneath the Upper Silt Aquitard. The location of the containment system, which consists of both a subsurface containment barrier wall and an asphalt cap, is shown on Figure 1.3.

Since 1999, Site monitoring has been conducted annually in accordance with the Performance Compliance Monitoring Plan (PCMP; EMCON 1998) and subsequent PCMP Addendum

(Floyd|Snider 2017) to confirm that the barrier wall is functioning as intended. The purpose of the barrier wall, as outlined in the PCMP, is to hydraulically isolate the major sources of contamination (i.e., arsenic, total petroleum hydrocarbons [TPH], and pentachlorophenol [penta]) in the Upper Sand Aquifer and minimize contaminant migration out of the containment area. The barrier wall was also intended to decrease potential contaminant flux from the Upper Sand Aquifer into the Lower Sand Aquifer and ultimately into the Snohomish River, which is hydraulically connected to the Lower Sand Aquifer.

In 2017, Ecology identified both Weyerhaeuser and MAP #2 as potentially liable parties for liability outside of the scope of the CD (i.e., outside the barrier wall). The AO was executed between Ecology, Weyerhaeuser, and MAP #2 on August 12, 2020. The SRI Work Plan was Exhibit B to the AO, which specified that planning for the SRI Work Plan must be implemented within 30 days of the effective date of the AO.

### 1.3 SRI OBJECTIVES

The SRI was conducted to collect additional data to evaluate current conditions and elevated concentrations of arsenic in soil and groundwater in an area of the Site outside the barrier wall. The primary objectives of the SRI are as follows:

- Assess current arsenic concentrations in soil and groundwater in both the Upper and Lower Sand Aquifers outside the barrier wall. This was accomplished by installing additional Upper and Lower Sand Aquifer monitoring wells and collecting groundwater data from existing and new Site monitoring wells and piezometers and from Everett Smelter Lowland Area monitoring wells in the immediate vicinity of the Site. Additional soil data were collected as described in Section 2.3 to evaluate arsenic concentrations that may be impacting groundwater or exceeding Mill E Site cleanup levels (CULs) for soil as defined in the CD.
- Evaluate current conditions for groundwater in the Upper Sand Aquifer inside the barrier wall, including groundwater sample collection from existing piezometers for arsenic, TPH, and penta.
- Evaluate current soil and groundwater conditions in the vicinity of the Outfall LLO-07 pipe alignment south of the barrier wall, including groundwater near former monitoring well HC-3 where elevated arsenic was previously detected in groundwater (refer to Figure 9 of the SRI Work Plan).
- Assess Site groundwater flow directions and horizontal gradients for both the Upper and Lower Sand Aquifers, and vertical gradients between the aquifers.
- Collect geochemical parameters from soil and groundwater samples to evaluate arsenic fate and transport, and to better understand natural geochemical conditions to determine if naturally reducing conditions are present.

The purpose of this SRI Data Summary Report is to present the data collected and findings of the SRI. These data will support the preparation of the SRI Report and Focused Feasibility Study (FFS) as required by the AO.

### 2.0 Summary of SRI Field Activities

The field investigation activities for this SRI were performed in accordance with the SRI Work Plan (Floyd|Snider 2020). These activities included the installation of 19 monitoring wells, five direct-push borings, soil sample collection from borings and monitoring wells, two groundwater sampling events (dry and wet seasons), an elevation survey, and water level measurements.

### 2.1 MONITORING WELL INSTALLATION

Monitoring well borings were installed by Stratus Corporation (Stratus) with a Geoprobe 7822DT drill rig using a combination of hollow-stem auger and direct-push drilling methodology between August 17 and August 25, 2020. Soil samples were collected continuously by advancing 2.25-inch outside diameter probe rods at varying intervals to support lithologic identification and sample collection. Soils were logged and described by the Floyd|Snider field geologist in general accordance with the United Soil Classification System (USCS). Locations of monitoring wells, including existing monitoring wells installed prior to 2020, are presented in Figure 2.1.

Monitoring well construction was performed in accordance with the Floyd|Snider Monitoring Well Construction Standard Guidelines (Attachment 1 of Floyd|Snider 2020) and described in more detail below. Monitoring wells were constructed in pairs, where one well was installed in the Upper Sand Aquifer and other installed in the Lower Sand Aquifer. Monitoring wells completed in the Upper Sand Aquifer included an "S" in their nomenclature (MW-01S through MW-09S) to indicate a shallow completion, and wells installed in the Lower Sand Aquifer included a "D" suffix (MW-01D through MW-09D) to indicate a deep completion. Deep monitoring well MW-10D was paired with existing shallow monitoring well PZ-1B.

A 2-inch-diameter polyvinyl chloride (PVC) well riser pipe with a variable-length screen was installed at each location using a combination of direct push and hollow-stem auger techniques. Soil core was collected continuously during monitoring well installation and logged to identify the location and thickness of the Upper Silt Aquitard. Soil samples that were collected for analysis are described in Section 2.3.1 below. Surface completions consisted of steel above-ground monuments with locking caps, except for three wells (MW-07S, MW-07D, MW-10D) that were completed with flush-mounted monuments.

Monitoring well installation logs are included in Appendix A. The following sections describe monitoring well installation and development.

### 2.1.1 Upper Sand Aquifer Wells

The Upper Sand Aquifer extends to depths of approximately 6 to 10 feet bgs and is underlain by the low permeability Upper Silt Aquitard. A total of nine Upper Sand Aquifer monitoring wells were installed between August 18 and 25, 2020, as follows:

• Six monitoring wells (MW-01S through MW-06S) were installed along the shoreline at the conditional point of compliance (CPOC) to evaluate groundwater quality in the

Upper Sand Aquifer where groundwater discharges to surface water. Two of these locations (MW-02S and MW-03S) were requested by Ecology and are located between the barrier wall and the bulkhead wall in a possible stagnation zone. These wells may not be representative of Upper Sand Aquifer groundwater discharging through the bulkhead to the Snohomish River; groundwater in this area is isolated from the rest of the Upper Sand Aquifer at the Site and not appreciably discharging to the river.

- Three monitoring wells (MW-05S, MW-07S, and MW-08S) were installed south of the barrier wall to evaluate groundwater quality in the Upper Sand Aquifer south of the containment system and along the alignment of the LLO-07 conveyance pipe, including along the western property boundary (one of the three, MW-05S, is also a shoreline well, as described in the bullet above).
- One monitoring well (MW-09S) was installed in the northwest portion of the Site, to evaluate groundwater quality in the Upper Sand Aquifer upgradient of piezometer PZ-3B, which had arsenic concentrations ranging from 5.8 to 31 micrograms per liter (μg/L) in 2013.

For Upper Sand Aquifer monitoring well installation, the field geologist directed the drill rig to collect direct push soil core in short (approximately 1 foot) increments to identify the Upper Silt Aquitard contact and to minimize penetration of the aquitard. After the field geologist confirmed the depth of the contact between the Upper Sand Aquifer and Upper Silt Aquitard, the drill rig switched to a larger diameter hollow-stem auger and overdrilled the borehole to the contact, which allowed for monitoring well installation. Upper Sand Aquifer monitoring wells were constructed with screened intervals consistent with existing Upper Sand Aquifer monitoring wells and extend approximately to the upper contact of the Upper Sand Aquifer and Upper Silt Aquitard (approximately 5.5 to 10 feet bgs). Screened intervals for Upper Sand Aquifer monitoring wells consisted of schedule 40, 0.010-slot PVC screens. The annular space surrounding the screened intervals was filled with a sand filter pack, followed by a bentonite seal to just below the surface completion.

### 2.1.2 Lower Sand Aquifer Wells

A Lower Sand Aquifer is present beneath the Upper Silt Aquitard. A total of 10 Lower Sand Aquifer monitoring wells were installed between August 18 and 25, 2020, as follows:

- Six monitoring wells (MW-01D through MW-06D) were installed along the shoreline at the CPOC to evaluate groundwater quality in the Lower Sand Aquifer where groundwater discharges to surface water.
- One monitoring well (MW-07D) was installed along the central alignment of the LLO-07 stormwater pipe to evaluate Lower Sand Aquifer groundwater quality and to evaluate vertical and horizontal gradients.
- One monitoring well (MW-08D) was installed south of the barrier wall along the western property boundary to evaluate groundwater quality in the Lower Sand Aquifer on the upgradient portion of the Site in this area.

- One monitoring well (MW-09D) was installed in the northwest portion of the Site to evaluate groundwater quality in the Lower Sand Aquifer upgradient of Everett Smelter Lowland Site monitoring well LLMW-20D, which had arsenic concentrations ranging from 8.7 to 34 μg/L in 2013.
- One monitoring well (MW-10D) was installed adjacent to existing Upper Sand Aquifer piezometer PZ-1B to provide a closer and on-site compliance monitoring point in the Lower Sand Aquifer for routine PCMP water level monitoring. Everett Smelter Lowland Site monitoring well LLMW-19D, which is approximately 90 feet west of PZ-1B, was previously monitored for this purpose. This monitoring well also provides groundwater quality data immediately outside the barrier wall and downgradient of LLMW-19D, which had elevated arsenic concentrations (approximately 40 μg/L) in 2013.

For Lower Sand Aquifer monitoring well installation, the following field procedures and drilling methods were used to prevent cross-contamination of the Lower Sand Aquifer:

- The approximate depth to the contact between the Upper Sand Aquifer and the Upper Silt Aquitard was identified in the soil cores from the shallow monitoring well within a pair.
- The Lower Sand Aquifer well was advanced to the approximate depth of the contact described above with hollow-stem auger tooling.
- The hollow-stem auger was advanced approximately 6 inches into the Upper Silt Aquitard and functioned as casing to seal off Upper Sand Aquifer groundwater from entering the Lower Sand Aquifer.
- The remainder of the borehole was drilled through the hollow-stem auger with cased direct push drill tooling. The direct push casing was advanced through the Upper Sand Aquifer and used to seal off any remaining groundwater within the annular space of the hollow stem-auger.
- After soil core was retrieved and the contact between the Upper Silt Aquitard and the Lower Sand Aquifer was confirmed by the field geologist, a 10-foot long by 3.4-inch diameter pre-pack PVC screen (0.010 slot) was driven down through the casing with an expendable drive point.
- The top of each pre-pack screen was fit with an expanding foam bridge product that
  was set at the depth of the contact between the Upper Silt Aquitard and Lower Sand
  Aquifer. This foam bridge, in combination with a bentonite seal above it, prevents any
  cross-contamination between the Upper and Lower Sand Aquifers.

Lower Sand Aquifer monitoring wells were set consistent with existing Lower Sand Aquifer monitoring wells and immediately below the aquitard. Screened interval depth varied depending on the observed thickness of the Upper Silt Aquitard at each location. Top of screened intervals ranged from approximately 9 to 20.5 feet bgs, and bottom of screened intervals ranged from approximately 19 to 30.5 feet bgs.

### 2.1.3 Monitoring Well Development

Each newly installed monitoring well was subsequently developed by Stratus between August 26 and August 27, 2020, to remove fine-grained material from the sand pack and surrounding soil formation. Wells were developed by pumping and periodically surging with a centrifugal pump until the purge water turbidity was 10 nephelometric turbidity units (NTU) or less, measured using a Lamotte 2020we turbidimeter. For monitoring wells where the groundwater turbidity could not be reduced to less than 10 NTU, turbidity was monitored until stable, within 10% for three consecutive readings. During development, approximately 2 to 40 gallons were purged from the Upper Sand Aquifer wells and approximately 5 to 50 gallons were purged from the Lower Sand Aquifer wells.

### 2.2 DIRECT PUSH BORINGS

Five direct push borings were advanced by Stratus between August 24 and August 25, 2020; four in the unpaved soil cap area at the southern portion of the property and one in the northwestern corner of the Site. Borings were terminated when the contact between the Upper Sand Aquifer and the Upper Silt Aquitard was observed in the soil core by the field geologist to prevent penetration through the aquitard. Soils were logged and described by the field geologist in general accordance with USCS. Total depths of the borings ranged from 7.5 to 12 feet bgs. The locations of soil borings SB-100 through SB-104 are shown on Figure 2.2. Soil boring logs are included in Appendix A.

Each soil boring was abandoned using three-eighths inch bentonite pellets from the bottom of boring to ground surface in accordance with Washington Administrative Code (WAC) 173-160-460(1)(e). Soil sampling methods and procedures are described in Section 2.3.2.

### 2.3 SOIL SAMPLE COLLECTION

Soil samples were collected by the Floyd|Snider field geologist in general accordance with Floyd|Snider Standard Guidelines and SRI Work Plan. Soil samples were collected from within approximately 2-foot intervals of continuous soil cores between the ground surface and the bottom of each boring. Select soil samples were analyzed for arsenic and geochemical parameters (i.e., iron, manganese, sulfide, and total organic carbon) to evaluate the variability in aquifer minerals that affect the fate and transport of arsenic. The remaining samples were archived at the laboratory pending results from the initially selected samples. Soil samples collected within the Upper Silt Aquitard and in the Lower Sand Aquifer were collected during monitoring well installation and discussed in Section 2.3.1.

### 2.3.1 Soil Sampling During Monitoring Well Installation

A total of 41 soil samples were collected during the drilling of 19 monitoring wells (Figure 2.2). Samples from the Upper Sand Aquifer were collected during the installation of wells screened in that zone. Throughout the well installation activities, selected samples from the Upper Sand Aquifer were couriered to Fremont Analytical in Seattle, Washington, under standard chain-of-custody protocols and analyzed for arsenic and geochemical parameters listed in Table 1 of the

SRI Work Plan. A single sample at MW-01S was also analyzed for diesel and heavy oil by NWTPH-Dx based on field observations that indicated a possible presence of petroleum hydrocarbons in a portion of the soil core.

During the installation of wells screened within the Lower Sand Aquifer, 10 soil samples were collected from the Upper Silt Aquitard and the Lower Sand Aquifer, and seven were analyzed for arsenic and geochemical parameters. Additionally, GSI Water Solutions, Inc. (GSI) collected anoxic soil cores from these locations as described in Section 2.3.3.

### 2.3.2 Direct Push Boring Samples

Soil samples were also collected during drilling of the five direct push soil borings. A total of 15 samples were collected in the Upper Sand Aquifer, and 13 were analyzed for arsenic and geochemical parameters listed in Table 1 of the SRI Work Plan. No samples were collected in the Upper Silt Aquitard or Lower Sand Aquifer because the borings did not penetrate the aquitard.

### 2.3.3 Anoxic Sample Collection

During monitoring well drilling, GSI field staff collected a total of 28 anoxic soil samples from MW-03D, MW-04D, MW-05D, MW-06D, MW-07D, and MW-10D (Figure 2.2). During collection, field staff used the following procedure to minimize the potential of sample oxidation:

- 1. The soil sample length (approximately 12 inches) was cut from the acrylic sampling sleeve. Both ends of the core were securely capped.
- 2. The capped sample core was placed in a Mylar sample bag. Oxygen-absorbing packets were added to the Mylar bag, and air was manually removed from the bag.
- 3. The sample bag was purged with nitrogen gas.
- 4. The sample bag was sealed with a portable heat sealer and the bag was labelled.
- 5. The bagged core was placed in a secondary resealable plastic bag, and air was manually removed from the bag. The secondary bag was sealed.
- 6. The double-bagged sample was placed in a cooler with dry ice, and the cooler was transported to Brooks Applied Labs in Bothell, Washington, and The Mineral Lab, Inc. in Golden, Colorado, for specialized arsenic speciation and mineral identification analyses.

The capped core sections that were submitted to the laboratory were not directly logged (to avoid exposure of the sample to oxygen), but any changes in lithology observed along the cut edges of the core tubes or through the clear plastic core tube liners were noted on the soil boring log.

Of the 28 anoxic samples collected, 11 were analyzed for a variety of anoxic parameters. Section 3.1.2 provides a summary of anoxic sample analytical results.

### 2.3.4 Field Observations

During the installation of monitoring wells and soil borings, subsurface lithologies were logged by the field geologist and thicknesses of the soil cap, fill, Upper Sand Aquifer, Upper Silt Aquitard,

and Lower Sand Aquifer were recorded where encountered. Three geologic cross sections depicting the various subsurface units and thickness are shown on Figure 2.3 and are presented in Figures 2.4 through 2.6, including a section across the barrier wall and asphalt cap (A-A'; Figure 2.4), a section following the Snohomish River shoreline (B-B'; Figure 2.5), and a section following the approximate alignment of the Outfall LLO-07 pipe (C-C'; Figure 2.6). Observed thicknesses of subsurface units at the Site were as follows:

- The soil cap ranged from approximately 1 to 2 feet in thickness.
- Upper Sand Aquifer thickness ranged from approximately 3 to 7.5 feet where the thickest observed location was at the MW-01 monitoring well pair at the northern end of the Site.
- Upper Silt Aquitard thickness ranged from approximately 2 to 12.5 feet where the thickest observed location was at the MW-08 monitoring well pair at the western end of the Site.

During the drilling of MW-01S, a sheen and hydrocarbon-like odor were observed in soil from approximately 8.5 to 9.5 feet bgs, and a sample was collected as described in Section 2.3.1 for diesel and heavy oil analysis. No other visual or olfactory evidence of contamination was encountered during soil boring or monitoring well installation activities.

### 2.4 ELEVATION SURVEY

On September 10, 2020, an elevation and coordinate survey was performed by Alpha Subdivision Pro's, Inc. The top of casing (TOC) elevations in feet using the North American Vertical Datum of 1988 (NAVD 88) were measured at all newly installed monitoring wells, existing piezometers (PZ-1A, PZ-1B, PZ-2A, PZ-2B, PZ-D, PZ-3A, and PZ-3B), and existing monitoring well LLMW-20D. The inclusion of existing locations was to ensure correlation with previous survey data. Additionally, the coordinates of all of these locations along with the five soil borings were collected. The TOC elevations are provided in Tables 2.1 and 2.2.

### 2.5 GROUNDWATER MONITORING

Dry and wet season groundwater monitoring events were performed in general accordance with the SRI Work Plan. Dry season groundwater samples were collected between September 10 and September 15, 2020, and wet season samples were collected between March 1 and March 4, 2021. Monitoring well locations sampled during these events are presented in Figure 2.1.

Groundwater samples collected from monitoring wells screened in the Lower Sand Aquifer were generally collected as close to one of two daily low tides as practicable during both dry and wet seasons to minimize tidal interference. During the dry season sampling event, the low tides during the sampling days ranged from -0.32 to 5.11 feet NAVD 88 at the nearby National Oceanic and Atmospheric Administration Everett Station 9447659 (NOAA 2021). During the wet season event, low tides at station 9447659 ranged from -1.48 to 0.75 feet NAVD 88 during the sampling days.

Groundwater levels in the Upper Sand Aquifer monitoring wells are not appreciably influenced by tides due to the elevations of their screened intervals. Upper Sand Aquifer monitoring wells

MW-02S, MW-03S, LLMW-21S, and PZ-03B were observed to be dry or had insufficient volume for groundwater sample collection during the dry season event. All monitoring wells contained water and had sufficient volume to be sampled during the wet season event.

### 2.5.1 Water Level Measurements

Prior to groundwater sample collection, water levels were collected at each monitoring well and piezometer during both dry and wet season sampling events using an electronic water level meter. Dry season water level measurements were collected between September 10 and September 15, 2020, at different points in the tidal cycle. Water level measurements during the wet season were collected within an approximately 2-hour time window on March 4, 2020, to minimize Snohomish River tidal influence. Groundwater elevations for dry and wet season sampling events are presented in Table 2.1 and Table 2.2, respectively.

### 2.5.2 Groundwater Sample Collection

Groundwater samples were collected using low-flow sampling techniques and in general accordance with the Floyd | Snider Standard Guidelines for Low-Flow Groundwater Sampling per the SRI Work Plan. Groundwater samples were collected from the Lower Sand Aquifer monitoring wells during periods of low tide to minimize tidal interference and to ensure samples were representative of groundwater discharging to surface water. Dedicated tubing at each sampling location was used to sample groundwater during each event. All monitoring locations were purged using a peristaltic pump at a flow rate of approximately 500 milliliters per minute or less until field parameters, including pH, temperature, dissolved oxygen, oxygen reduction potential, and specific conductivity, stabilized. Groundwater samples from monitoring wells were analyzed for total and dissolved arsenic and the geochemical parameters listed in Table 1 of the SRI Work Plan. In addition to arsenic and geochemical parameters, groundwater from shallow piezometers within the barrier wall and asphalt cap (PZ-1A, PZ-2A, and PZ-3A) was analyzed for TPH by NWTPH-Gx and NWTPH-Dx and penta.

### 2.6 INVESTIGATION-DERIVED WASTE

Soil cuttings, excess sample volume, and development and decontamination water generated during the installation of monitoring wells and direct push borings were containerized in U.S. Department of Transportation-approved 55-gallon steel drums and stored at the northwest corner of the Site pending analysis of investigation-derived waste (IDW) composite samples collected from the drums. A total of 27 drums of IDW were generated during the soil boring and well installations, including 10 soil, 14 liquid, and 3 mixed drums. After submission of the analytical data from composite soil and groundwater samples, the waste profile was approved and the IDW drums were picked up by ACTEnviro on November 2, 2020, and transported for disposal at U.S. Ecology's Subtitle D landfill in Grandview, Idaho.

During the dry and wet season sampling events, purge water from groundwater sample collection was containerized into two 55-gallon drums. These drums were also picked up by ACTEnviro on April 14, 2021, and transported for disposal at U.S. Ecology in Grandview, Idaho, under the same waste profile.

### 3.0 Summary of SRI Results

The soil and groundwater data collected in accordance with the SRI Work Plan as described in Section 2.0 is summarized in the following sections. Samples were analyzed in accordance with the Quality Assurance Project Plan (QAPP), which is Attachment 2 of the SRI Work Plan (Floyd|Snider 2020). Copies of laboratory analytical reports are included in Appendix B.

### 3.1 SOIL ANALYTICAL RESULTS

Soil analytical data for arsenic were compared to relevant screening criteria to evaluate the distribution and magnitude of arsenic in subsurface soils. Soil data collected as part of the SRI were compared to the following criteria:

- 20 milligrams per kilogram (mg/kg), which is the MTCA Method A CUL for unrestricted land use, consistent with background as established in Table 745-1 (WAC 173-340-900).
- 200 mg/kg, which is the Site CUL for arsenic established in the CD.

It is important to note that Site CULs have not yet been established per the AO.

### 3.1.1 Arsenic Results in Soil

Total arsenic in soil at monitoring wells MW-01S through MW-10D ranged from 5 to 86 mg/kg. The MTCA Method A CUL of 20 mg/kg was exceeded in at least one sample collected at all monitoring well pairs except for the MW-01, MW-08, and MW-09 pairs. The highest concentration (86 mg/kg) was observed at MW-03S from 2 to 2.5 feet bgs, immediately beneath the soil cap. No soil samples from monitoring wells exceeded the Site CUL of 200 mg/kg.

Total arsenic in soil samples from borings SB-100 to SB-104 ranged from 14 to 670 mg/kg. The MTCA Method A CUL was exceeded in at least one sample from each boring except for SB-101. The maximum concentration of 670 mg/kg was observed in the sample collected from 4 to 4.5 feet bgs at SB-100, collected immediately below quarry spall fill materials placed by MAP #2 after the asphalt cap and barrier wall installations. This was the only sample that exceeded the Site CUL of 200 mg/kg and confirmed the presence of a localized hot spot identified immediately outside the barrier wall in 1992 (SB-21; refer to Figure 8 of the SRI Work Plan).

Soil sample locations, depth information, and analytical results relevant to the criteria described above are presented in Figure 3.1 and Table 3.1.

### 3.1.2 Anoxic Soil Sample Results

Anoxic soil samples were collected to provide a better understanding of site-specific subsurface geochemical conditions and will be used to evaluate the fate and transport of arsenic at the Site. Anoxic laboratory testing consisted of soil mineralogy identification (using X-ray diffraction [XRD], arsenic redox speciation tests, arsenic and metals sequential extraction procedures, and batch

adsorption tests. Summary tables of anoxic laboratory testing results are provided in Appendix C. A summary of results is as follows:

- Soil mineralogy predominantly consisted of quartz (18% to 46%) and plagioclase feldspar (33% to 42%). Clinoamphibole and chlorite were also measured in every sample. Finally, pyrite was detected by XRD at MW-04 (7.5 to 8.4 feet) and MW-05 (6.5 to 7.5 feet).
- Arsenic redox speciation tests measured concentrations of adsorbed arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], and dimethylarsinic acid [DMAs] in soil. Most arsenic occurred as either arsenite (0.304 to 10.1 mg/kg) or arsenate (0.558 to 53.3 mg/kg).
- Sequential extraction procedures measure the operationally defined speciation of arsenic, iron, and manganese in soils using a five-step extraction scheme designed to sequentially dissolve increasingly insoluble chemical forms (from WEN 1 to WEN 5 for weakly adsorbed to residual, respectively). Arsenic was detected in all five extractions and in all but one sample (MW-05, 4.5 to 5.2 feet.), it was predominantly associated with the most residual (insoluble) form (WEN 5). Iron and manganese were primarily associated with residual forms (WEN 5) in all soil samples.
- Soil adsorption capacity was measured using batch adsorption tests that involved spiking a synthetic groundwater with 1,000 μg/L of arsenite and measuring the amount remaining in solution for different solid-to-liquid (S:L) ratios of soil to groundwater. All soils adsorbed arsenic from solution, with final arsenic concentrations measured between 58 and 894 μg/L, depending on the sample and S:L ratio. The highest amount of arsenic adsorption occurred in tests using the highest S:L ratio (1:4), with final solution arsenic concentrations ranging between 58 and 478 μg/L.

Anoxic soil sample results will be used to evaluate the fate and transport of arsenic at the Site.

### 3.1.3 Other Geochemical Parameters

To evaluate the variability in aquifer minerals that affect arsenic fate and transport, select soil samples were analyzed for iron, manganese, sulfide, and total organic carbon. Analytical results are summarized below:

- Iron concentrations ranged from 16,000 to 23,000 mg/kg.
- Manganese concentrations ranged from 230 to 480 mg/kg.
- Sulfide was not detected at concentrations above laboratory reporting limits at any sample location.
- Total organic carbon detections ranged from 0.077% to 1.4%.

Neither iron, manganese, sulfide, or total organic carbon have established MTCA A or site-specific CULs. Soil sample locations, depth information, and results for these geochemical parameters are presented in Table 3.1.

### 3.1.4 Diesel and Heavy Oil Results in Soil

Heavy fuel oil was detected in soil sample MW-01S-9-9.5 at a concentration of 5,740 mg/kg, which exceeds both the MTCA Method A CUL for unrestricted land use and the Site CUL for TPH established in the CD of 2,000 and 2,500 mg/kg, respectively. Diesel was not detected at a concentration above laboratory reporting limits. MW-01S is located north of the barrier wall along the shoreline and off-site. As previously mentioned, field indications of TPH were not observed at other boring locations, and therefore this result is considered anomalous and not likely associated with the Site but may be associated with the treated wood bulkhead along the shoreline.

### 3.2 GROUNDWATER ANALYTICAL RESULTS

Dry and wet season groundwater samples were collected from newly installed monitoring wells, nearby Everett Smelter Site Lowland Area monitoring wells, and existing piezometers both inside and outside of the barrier wall to evaluate current Site groundwater conditions. In addition to analyzing groundwater samples for total and dissolved arsenic, the primary chemical of concern (COC), samples were analyzed for major cations [total (calcium, magnesium, potassium, sodium)], major anions [total (bromide, chloride, fluoride, sulfate)], dissolved alkalinity, major ions [total (orthophosphate)], other ions [total (nitrate and nitrite), and conventionals (dissolved sulfide, dissolved organic carbon, total organic carbon). Groundwater samples from PZ-1A, PZ-2A, and PZ-3A were also analyzed for other Site COCs, including penta and TPH.

Groundwater results were compared to the following Site CULs established for Site COCs in the CD:

- 5 μg/L for arsenic, which was based on MTCA Method A
- 7.29 μg/L for penta, which was based on MTCA Method C
- 10,000 µg/L for total TPH, which is the sum of gasoline-, diesel-, and oil-range organics

Groundwater sample locations and results compared to the CULs are presented in Table 3.2 and shown on Figure 3.2 (arsenic) and Figure 3.3 (other COCs). Results of additional groundwater geochemical parameter analyses are presented in Table 3.3.

### 3.2.1 Dry Season

The following subsections summarize the groundwater analytical results for samples collected during the dry season groundwater monitoring event in September 2020. As discussed in Section 2.5, monitoring wells MW-02S, MW-03S, LLMW-21S, and PZ-03B were dry or had insufficient volume for groundwater sample collection during the dry season monitoring event.

### 3.2.1.1 Arsenic Results

For Upper Sand Aquifer monitoring wells outside the barrier wall, total arsenic concentrations ranged from 3.6  $\mu$ g/L at MW-01S to 1,000  $\mu$ g/L at MW-05S. For Lower Sand Aquifer wells outside the barrier wall, total arsenic concentrations ranged from 1.9  $\mu$ g/L at MW-08D to 230  $\mu$ g/L at MW-04D. Within the barrier wall area, total arsenic concentrations ranged from 270  $\mu$ g/L at PZ-2A to 1,800  $\mu$ g/L at PZ-1A.

### **3.2.1.2** Other COCs

TPH and penta were analyzed during the dry season at piezometers within the barrier wall area. Total TPH concentrations did not exceed the Site CUL and ranged from 220  $\mu$ g/L at PZ-2A to 4,900  $\mu$ g/L at PZ-1A. Penta was not detected above the Site CUL or laboratory reporting limits in any sample collected during the dry season.

### 3.2.2 Wet Season

The following subsections summarize the groundwater analytical results for samples collected during the wet season groundwater monitoring event in March 2021.

### 3.2.2.1 Arsenic Results

For Upper Sand Aquifer monitoring wells outside the barrier wall, total arsenic concentrations ranged from 1.7  $\mu$ g/L at PZ-2B to 1,200  $\mu$ g/L at MW-05S. For Lower Sand Aquifer wells outside the barrier wall, detected total arsenic concentrations ranged from 1.7  $\mu$ g/L at MW-06D to 180  $\mu$ g/L at MW-05D. Within the barrier wall area, total arsenic concentrations ranged from 130  $\mu$ g/L at PZ-2A to 1,400  $\mu$ g/L at PZ-1A.

### 3.2.2.2 Other COCs

TPH and penta were analyzed during the wet season at piezometers within the barrier wall area. Total TPH detections ranged from 140  $\mu$ g/L at PZ-2A to 13,000  $\mu$ g/L at PZ-1A. The concentration for total TPH from the sample collected from PZ-1A exceeds the Site CUL of 10,000  $\mu$ g/L. Penta was not detected above laboratory reporting limits at any sample collected during the wet season.

### 3.3 GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

Groundwater elevation contours for the Upper and Lower Sand Aquifers interpolated from measurements collected during September 2020 (dry season) are shown on Figures 3.4 and 3.5. Groundwater elevation contours for March 2021 monitoring event (wet season) are presented in Figures 3.6 and 3.7. Groundwater elevations for dry and wet season sampling events are presented in Table 2.1 and Table 2.2, respectively.

### 3.3.1 Upper Sand Aquifer

In the Upper Sand Aquifer, groundwater elevations measured in Site monitoring wells ranged between 6.08 to 7.28 feet NAVD 88 during the dry season event and between 7.60 and 10.00 feet NAVD 88 during the wet season event. The presence of the barrier wall within the Upper Sand Aquifer disrupts groundwater flow paths, forcing upgradient groundwater to flow around the containment structure. The dominant apparent groundwater flow direction in both seasons was eastward toward the tidally influenced Snohomish River; a groundwater flow direction to the east was observed north and south of the barrier wall, while a southwesterly component of flow direction was observed in the southern portion of the Site during the dry season.

During the dry season event, monitoring wells PZ-3B, MW-02S, and MW-03S, located between the barrier and bulkhead walls, were dry. Groundwater was detected in these three monitoring wells during the wet season, and groundwater elevation contours suggest a northerly flow direction, towards PZ-3B, with a relatively flat hydraulic gradient north of MW-02S. These wells are not subject to tidal influence as their screened intervals sit above the typical river stage elevation range. Groundwater level elevations between the barrier and bulkhead walls are consistent with this area, particularly between MW-02S and MW-03S, being hydraulically isolated from the rest of the Upper Sand Aquifer.

### 3.3.2 Lower Sand Aquifer

During the dry season, groundwater elevations in Site monitoring wells screened within the Lower Sand Aquifer ranged from 2.05 to 6.23 feet NAVD 88 and from 4.26 to 6.39 feet NAVD 88 during the wet season. Dry season water level measurements were collected over the course of 5 days at different points in the tidal cycle, and groundwater flow directions inferred from potentiometric contours near the shoreline, where tidal influence is greatest, were not considered representative. Wet season groundwater elevation contours, however, were collected within approximately 2 hours to minimize tidal effects, and accurate groundwater flow directions can be inferred from the contour map for this period. In the wet season measurements, water levels were highest in the Lower Sand Aquifer at the northwest edge of the Site, with an apparent flow direction to the southeast. A groundwater flow direction to the east was also observed in the southern portion of the Site, and both inferred flow directions indicate flow towards the Snohomish River.

### 3.4 DATA VALIDATION

Validation of all analytical data collected during the SRI was performed in accordance with the SRI Work Plan and QAPP. Based on the data quality review, the data are determined to be of acceptable quality for use as qualified. A memorandum summarizing the data validation is provided in Appendix D.

### 4.0 Deviations From SRI Work Plan

This section summarizes deviations from the SRI Work Plan that occurred during implementation of the SRI.

### 4.1 ABOVE-GROUND MONITORING WELL CONSTRUCTION VARIANCE

A variance request was approved by Ecology on August 20, 2020, to forgo the use of bollards to surround above-ground monuments per WAC 173-160-420(12)(a) since there is no vehicular traffic where monitoring wells were completed with above-ground monuments. The variance request form and email approval from Ecology are provided in Appendix E.

### 4.2 LOWER SAND AQUIFER MONITORING WELL CONSTRUCTION VARIANCE

Prepacked monitoring wells cannot be constructed through more than one water bearing formation and require prepacked or slurry sealant below static water level per WAC 173-160-451(2)(c-d). However, for monitoring wells screened in the Lower Sand Aquifer, three-quarter-inch bentonite chips were placed above a foam bridge to combine and seal the underlying Lower Sand Aquifer. This modified well installation and construction was implemented to prevent heaving sands and aquifer cross-contamination. The variance request form and communications detailing Ecology's verbal approval are provided in Appendix E.

### 4.3 MONITORING WELLS NOT SAMPLED DURING DRY SEASON EVENT

Groundwater samples were not collected at four Upper Sand Aquifer monitoring wells during the dry season groundwater monitoring event. Although listed in the SRI Work Plan as part of the proposed groundwater quality evaluation, monitoring wells MW-02S, MW-03S, LLMW-21S, and PZ-03B were observed to be dry or had insufficient groundwater volume for sample collection. These conditions were expected because of the lack of precipitation and recharge to the Upper Sand Aquifer during the dry season, particularly downgradient from the barrier wall.

### 4.4 ADDITIONAL GEOCHEMICAL ANALYSES

Rather than collecting soil and groundwater samples for additional geochemical analyses in later investigation phases or mobilizations, samples were collected and analyzed for additional geochemical parameters as part of SRI field activities. Select soil samples were analyzed for iron, manganese, sulfide, and total organic carbon and all groundwater samples were analyzed for a variety of major cations, major anions, dissolved alkalinity, major ions, other ions, and conventional parameters (refer to Section 3.2). Select soil samples were also collected by GSI and submitted for anoxic laboratory testing as part of the SRI field activities in August 2020.

### 4.5 DIESEL AND HEAVY OIL SOIL SAMPLE COLLECTION AND ANALYSIS

As described in Sections 2.3.1 and 2.3.4, the soil sample MW-01S-9-9.5 was submitted to Fremont Analytical for diesel and heavy oil analysis by NWTPH-Dx. Although diesel and heavy oil were not included as analytes in the SRI Work Plan, this sample was collected because a portion of the soil core from MW-01S exhibited olfactory and visual evidence of petroleum contamination.

### 5.0 Data Summary, Data Gaps, and Next Steps

Additional soil and groundwater data were collected to evaluate current conditions outside the barrier wall at the Site in accordance with the AO and the associated SRI Work Plan. The soil and groundwater data collected as part of the SRI are sufficient to define the nature and extent of current or potential groundwater contamination sources and to complete the SRI Report.

### 5.1 DATA SUMMARY

The SRI soil and groundwater results summarized herein were evaluated relative to relevant criteria described in Section 3.0 to evaluate nature and extent of arsenic contamination outside the barrier wall. In addition, additional geochemical parameters in soil and groundwater were collected and analyzed as part of the SRI field activities rather than during a subsequent phase of investigation to provide a better understanding of site-specific subsurface geochemical conditions to evaluate fate and transport of arsenic at the Site. These data were reviewed along with historical data and Site information to determine whether any potential source areas or data gaps exist.

A summary of this review follows:

- The distribution and range of concentrations of arsenic in soil and groundwater is generally consistent with the known conditions that were presented in the *Draft Remedial Investigation Report* (Draft RI; EMCON 1994) for the Site.
- Arsenic in soil generally ranged from 5 to 86 mg/kg (with one exception noted below), with many of the samples greater than the MTCA A CUL of 20 mg/kg.
  - The distribution of arsenic does not appear consistent with a localized release but is instead widespread across the Site with elevated concentrations of arsenic generally 2 to 5 times greater than MTCA Method A CUL of 20 mg/kg but less than the Site CUL of 200 mg/kg, with one exception.
  - There is a localized soil hot spot (SB-100) located just outside the northwest portion of the barrier wall where arsenic is present at a maximum concentration of 670 mg/kg at a depth of 4 to 4.5 feet bgs, which is the only sample greater than the Site CUL of 200 mg/kg.
- Arsenic in Upper Sand Aquifer groundwater outside the barrier wall ranges in concentrations from less than the CUL of 5 to 1,200 μg/L (at MW-05S). In general, arsenic concentrations were slightly greater during the dry season event than during the wet season event.
  - The Upper Sand Aquifer groundwater flow is restricted by the barrier wall. It
    occurs in fill material above the native tide flat and is not strongly connected
    hydraulically with the Snohomish River and is not appreciably influenced by tides.
  - Shoreline monitoring well MW-01S located north of the barrier wall did not contain arsenic at concentrations greater than the CUL in either the dry or wet

- season events. This is the only shallow Site well with arsenic concentrations less than the CUL during both events.
- O The two monitoring wells along the shoreline between the barrier wall and the Snohomish River (MW-02S and MW-3S) were both dry during the dry season event, indicating that the area between the bulkhead and the river is isolated from the rest of the Upper Sand Aquifer at the Site, and little groundwater discharges to the river in this area. The barrier wall disrupts groundwater flow paths from upgradient groundwater and the cap limits upgradient infiltration. During the wet season, arsenic was detected in both wells at concentrations less than 2 times the CUL of 5  $\mu$ g/L, providing further evidence that the barrier wall limits contaminant migration.
- Shoreline monitoring wells MW-04S (south of the barrier wall) and MW-06S (in the southern portion of the Site) both contained concentrations of arsenic greater than the CUL during at least one event.
- Shoreline monitoring well MW-05S located adjacent to outfall LLO-07 had the greatest concentrations of arsenic site-wide (1,200 μg/L). Arsenic soil concentrations at this location were relatively low (30 mg/kg) compared to the relatively high groundwater arsenic concentrations.
- Other Upper Sand Aquifer wells along the former stormwater pipe that previously discharged at LLO-07 (MW-07S and MW-08S) also showed elevated arsenic concentrations relative to other areas of the Site outside the barrier wall. Similar to MW-05S, arsenic concentrations are relatively low when compared to the relatively high concentrations in groundwater. MW-08S is located at the upgradient property line, and it appears that high concentrations of arsenic-contaminated groundwater are migrating onto the property from an upgradient source. It is possible that the pipe is or was a preferential pathway for contaminated groundwater migration. The upgradient source is unknown.<sup>1</sup>
- Arsenic in Lower Sand Aquifer groundwater outside the barrier wall ranges from less than the CUL of 5 to 230  $\mu$ g/L (at MW-04D).
  - The Lower Sand Aquifer is hydraulically connected to the Snohomish River and is tidally influenced. The Lower Sand Aquifer groundwater flow is not restricted by the barrier wall (the barrier wall is keyed into the Upper Silt Aquitard above the Lower Sand Aquifer), and, therefore, collection of groundwater data immediately adjacent to and outside the wall provide adequate information regarding the nature and extent of arsenic in the Lower Sand Aquifer.
  - Arsenic was not detected at concentrations greater than the CUL in either event at newly installed monitoring wells MW-02D, MW-06D, MW-07D, MW-08D,

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Pipe investigation activities were conducted between 2017 and 2018 and confirmed that this pipe extended off-property and originated from an unknown upland source. The pipe was decommissioned in 2018, but the source of the pipe was not identified.

- MW-09D, MW-10D or at upgradient Everett Smelter Site Lowland Area wells LLMW-18D and LLMW-21D.
- Arsenic was detected at a concentration greater than the CUL (less than 2 times the CUL) during only the wet season at shoreline well MW-01D.
- Arsenic was detected at concentrations more than 2 times the CUL at shoreline wells MW-03D, MW-04D, and MW-05D. The greatest concentrations were detected at MW-04D where the Silt Aquitard appears to be less than 2 feet thick and the arsenic concentrations in soil are either less than or just slightly greater than the MTCA CUL of 20 mg/kg (refer to Figure 3.1).
- Groundwater collected from Everett Smelter Site Lowland Area monitoring wells LLMW-19D and LLMW-20D also contained concentrations of arsenic greater than 2 times the CUL.
- Arsenic concentrations in Upper Sand Aquifer groundwater inside the barrier wall ranged from 270  $\mu$ g/L at PZ-2A to 1,800  $\mu$ g/L at PZ-1A, which is located on the western edge of the barrier wall. This groundwater is contained within the barrier wall.
- Total TPH exceeded the Site CUL of 10,000 µg/L only during the wet season at piezometer PZ-1A, which is located inside the barrier wall. Other COCs (TPH and penta) were not present at concentrations greater than the Site CULs in Upper Sand Aquifer groundwater inside the barrier wall.
- Geochemical conditions in the subsurface generally indicate a reducing chemical environment, which means some of the arsenic, iron, and sulfur in the Upper and Lower aquifers occur in more reduced valence states (i.e., arsenite, ferrous iron, and sulfide, respectively). Reducing conditions are often associated with naturally elevated arsenic concentrations due to the dissolution of amorphous iron minerals that adsorb arsenic. Reducing conditions also influence arsenic fate and transport by affecting arsenic sorptivity and stability of minerals that can attenuate arsenic (such as iron sulfides and oxyhydroxides).

### 5.2 DATA GAPS

Based on a review of the SRI soil data, in conjunction with existing Site data and associated nearby data for the Everett Lowland Site, there are sufficient data to characterize the nature and extent of arsenic contamination in soil at the Site. There is a localized hot spot (SB-100) that will need to be further delineated laterally to design a remedy, but this additional focused investigation could be conducted as part of the subsequent design.

Based on a review of the SRI groundwater data, in conjunction with previous Site data and associated nearby data for the Everett Lowland Site, there are sufficient data to characterize the nature and extent of arsenic contamination in groundwater at the Site. Per the CAP, the point of compliance for groundwater at the Site is the property boundary adjacent to the Snohomish River. To evaluate arsenic concentrations at the CPOC, where groundwater discharges to surface water, the shoreline monitoring wells were installed to evaluate potential migration pathways.

The recent groundwater data indicates that there is a potential for discharge of groundwater with arsenic greater than the CUL to the Snohomish River in the vicinity of wells MW-03D adjacent to and beneath the barrier wall, MW-04S/04D just outside the southern boundary of the barrier wall, and in the vicinity of wells MW-05S/05D adjacent to outfall LLO-07. A thorough evaluation of this potential migration pathway, including a review of all existing sediment and seep data, will be presented in the SRI Report.

The elevated concentration of arsenic (837 mg/kg) detected in the sediment sample collected at Outfall LLO-07 (sample LLSD-19) as part of the Everett Lowlands Site in 2013<sup>2</sup>, is significantly higher than soil concentrations in the vicinity of the former pipe on-property (GeoEngineers 2013). The available data indicates an off-site source. A soil sample collected from TP-30, located off-property immediately west of the Site, contains arsenic at 954 mg/kg, which is more consistent with the arsenic concentration observed in sediment adjacent to Outfall LLO-07. There are several pockets of smelter-related arsenic contamination in soil located off-property and to the west of the Site that could be potential sources of the Outfall LLO-07 discharge. A stormwater sample collected from the junction box of this pipe (approximately 40 feet east of the property line) during a low tide in 2018 also showed that arsenic was present in stormwater at a concentration of 154 µg/L and demonstrated that contaminated stormwater was being conveyed from an upgradient and off-property source. In addition, as previously mentioned, elevated arsenic in groundwater along the former outfall pipe indicates that the pipe could be acting as a preferential migration pathway, and there are elevated concentrations of arsenic (520 μg/L) in well MW-08S at the upgradient property boundary, adjacent to where the former pipe was confirmed to cross the property line.

Groundwater and soil geochemical data that were collected as part of the SRI will be evaluated to understand the natural variability of geochemical conditions that affect fate and transport of arsenic, including the occurrence of naturally reducing conditions. Anoxic soil testing results will also be used to generate a site-specific arsenic fate and transport geochemical model. This model will be used to address questions concerning the origin and mobility of arsenic in groundwater and the potential for migration past the CPOC to Snohomish River sediments.

### 5.3 NEXT STEPS

Based on the above data summary and associated data gaps evaluation, additional investigation is not necessary to define the nature and extent of contamination. A Final SRI Data Summary Report will be submitted to Ecology within 45 calendar days after receipt of Ecology's comments on this Agency Review SRI Data Summary Report.

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This data was collected almost 15 years after the completion of remedial activities at the Site and almost 30 years after operations at the Site ceased. This arsenic concentration was significantly greater than (approximately double) the highest concentration detected during the prior 1992 and 1995 Weyerhaeuser sediment investigations, which consisted of more than 40 samples. The 2013 data indicates a more recent and on-going source of arsenic discharge via outfall LLO-07 originating off-site.

Upon Ecology concurrence that additional data are not warranted to define the nature and extent of contamination at the Site, an Agency Review Draft SRI Report will be prepared 90 days following Ecology's approval of the SRI Data Summary Report. The SRI Report will provide an update to the 1994 Draft RI for the Site and will include a comprehensive summary of available and relevant data for the Site, including additional recent data that has been collected in the vicinity of the Site for the Asarco Smelter Lowland Site. The SRI will include a summary of arsenic concentrations in groundwater over time and determine the source of arsenic contamination in groundwater outside the barrier wall on the Site. The SRI will also evaluate active contamination migration pathways and establish proposed CULs for any additional cleanup that may be warranted under the AO. The data presented in the SRI Report will support the preparation of the FFS as required by the AO.

### 6.0 References

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# Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report

**Tables** 

Table 2.1
Groundwater Elevations (1)

	Causanad			Donallo do	
	Screened	Reference		Depth to Water	Groundwater
Piezometer/Well <sup>(1)</sup>	Interval (ft bgs)	Elevation TOC (2)	Date	(ft bgs)	Elevation (2)
Piezoinietei/weii		Lievation Toc	9/10/2020	11.24	4.67
LLMW-18D	20–30	15.91	3/4/2021	10.08	5.83
			9/11/2020	11.17	4.53
LLMW-18S	3.5–7.5	15.7	3/4/2021	9.24	6.46
11.NAVA 10D	17 27	14.22	9/10/2020	7.78	6.44
LLMW-19D	17–27	14.22	3/4/2021	7.13	7.09
LLMW-20D	11–21	14.86	9/11/2020	11.89	2.97
	11 21	14.00	3/4/2021	9.74	5.12
LLMW-21D	23–33	16.03	9/10/2020	9.66	6.37
			3/4/2021	8.57	7.46
LLMW-21S	3.5–7	16.04	9/11/2020 3/4/2021	DRY 7.73	NA 8.31
			9/10/2020	9.72	4.65
MW-01D	13.6–26.6	14.37	3/4/2021	9.54	4.83
			9/10/2020	8.33	6.08
MW-01S	4.5–9.5	14.41	3/4/2021	6.56	7.85
MW-02D	13.8-23.8	16.69	9/10/2020	11.32	5.37
IVIVV UZU	13.0-23.0	10.03	3/4/2021	12.43	4.26
MW-02S	4–8	16.61	9/10/2020	DRY	NA
- <del></del>	ļ		3/4/2021	9.01	7.60
MW-03D	13.5-23.5	15.05	9/10/2020	11.04	4.01
			3/4/2021 9/10/2020	10.65 DRY	4.40 NA
MW-03S	4–5.5	14.76	3/4/2021	6.3	8.46
			9/11/2020	12.75	2.05
MW-04D	9–19	14.80	3/4/2021	10.28	4.52
N 4114 O 4 G		11.70	9/10/2020	7.73	7.05
MW-04S	4–7	14.78	3/4/2021	6.02	8.76
MW-05D	10–20	14.68	9/11/2020	11.84	2.84
10100-03D	10-20	14.08	3/4/2021	10.06	4.62
MW-05S	4–5.5	14.78	9/10/2020	7.72	7.06
		_	3/4/2021	6.08	8.70
MW-06D	11–21	15.89	9/11/2020	13.08	2.81
			3/4/2021	11.48 8.83	7.00
MW-06S	4–9	15.83	9/10/2020 3/4/2021	7.04	8.79
			9/11/2020	10.7	2.09
MW-07D	13–23	12.79	3/4/2021	8.14	4.65
NAVA / 07C	4.0	12.62	9/10/2020	5.41	7.21
MW-07S	4–8	12.62	3/4/2021	3.64	8.98
MW-08D	20.5–30.5	14.73	9/11/2020	11.72	3.01
10100 000	20.5 30.5	14.73	3/4/2021	9.51	5.22
MW-08S	4–7.5	14.88	9/11/2020	7.6	7.28
			3/4/2021	4.88	10.00
MW-09D	14.5–24.5	16.38	9/11/2020	14.06 9.99	2.32 6.39
			3/4/2021 9/14/2020	9.99	6.68
MW-09S	3–9	16.63	3/4/2021	8.36	8.27
A 0.4/ 4.25	40 - 55 -	10	9/10/2020	7.21	6.23
MW-10D	19.5–29.5	13.44	3/4/2021	8.14	5.30
D7 1 A	2 5 5	12 10	9/11/2020	6.72	6.46
PZ-1A	2–5.5	13.18	3/4/2021	6.31	6.87
PZ-1B	3.5–7	13.10	9/10/2020	5.82	7.28
	J.5 /	13.10	3/4/2021	3.62	9.48
PZ-2A	3–8	12.90	9/11/2020	5.82	7.08
		- ,	3/4/2021	5.14	7.76
PZ-2B	2.5-7.5	11.93	9/15/2020	4.72	7.21
			3/4/2021	2.68	9.25
PZ-2D	15–25	12.60	9/11/2020 3/4/2021	10.43 7.96	2.17 4.64
			9/11/2020	7.96	6.40
PZ-3A	2.5–6.5	14.06	3/4/2021	6.97	7.09
			9/11/2020	DRY	NA
PZ-3B	3–6	14.44	3/4/2021	6.9	7.57

### Notes:

DRY Well or piezometer was dry.

- 1 "A" wells are located inside the barrier wall in the Upper Sand Aquifer; "B" wells are located outside the barrier wall in the Upper Sand Aquifer; "D" wells are located outside the barrier wall in the Lower Sand Aquifer; "S" wells are located outside the barrier wall in the Upper Sand Aquifer.
- 2 Top of well casing and groundwater elevations are presented in feet NAVD 88. Wells and piezometers were surveyed on 9/10/2020 by ASPI, LLC.

### Abbreviations:

bgs Below ground surface

ft Feet

NA Not applicable

NAVD 88 North American Vertical Datum of 1988

TOC Top of casing

Table 3.1 Soil Analytical Results

		Analyte Class	Primary COC	Ot	ther Geochemi	cal Parame	ters
		Analyte	Arsenic	Iron	Manganese	Sulfide	Total
	MI	CA Method A CUL	20				
		Site CUL	200				
		Units	mg/kg	mg/kg	mg/kg	mg/kg	%
Location	Sample Date	Depth (feet bgs)					
MW-01S	8/18/2020	7.5–8	5.0	16,000	230	5.9 U	0.075 U
	8/17/2020	3.8-4.1	8.4				
MW-02S	8/17/2020	6.8–7	32	23,000	310	5.1 U	0.075 U
	8/17/2020	8.5-8.8	19				
MW-03S	8/18/2020	2-2.5	86	20,000	320	5.3 U	0.41
IVIVV-U33	8/18/2020	5-5.5	29				
MW-03D	8/18/2020	21-21.5	6.6	16,000	280	0.61 UJ	0.075 UJ
MW-04S	8/20/2020	6–6.5	8	18,000	280	6.0 U	0.075 U
NAVA / OAD	8/20/2020	6.5-7	23	20,000	270	0.70 UJ	1.4 J
MW-04D	8/20/2020	14.5-15	9.1	17,000	240	0.59 UJ	0.22 J
MW-05S	8/20/2020	5–5.5	30	21,000	300	5.9 U	0.077
N 41 A / OF D	8/20/2020	7.5–8	15	20,000	240	0.71 UJ	1.0 J
MW-05D	8/20/2020	17-17.5	15	16,000	230	0.6 UJ	0.31 J
MW-06S	8/18/2020	5.5-5.5	26	18,000	260	5.8 U	0.075 U
	8/19/2020	7–7.5	11	17,000	250	0.59 UJ	0.083 J
	8/19/2020	8.5-8.9	32	21,000	280	0.71 UJ	0.33 J
MW-06D	8/19/2020	14–14.5	16	20,000	260	0.65 UJ	0.17 J
N 4) 4 / 07 C	8/21/2020	4.5-5	48				
MW-07S	8/20/2020	6.5-7	34	21,000	290	6.0 U	0.24
MW-08S	8/24/2020	3–3.5	6.7	23,000 J	480	5.3 U	0.64
MW-09S	8/25/2020	3–3.3	10	19,000	350	5.2 U	0.075 U
MW-10D	8/21/2020	3.5-4	21	21,000	310	5.3 U	0.29
	8/25/2020	4–4.5	670				
SB-100	8/25/2020	5.5-6	190	20,000	240	5.4 U	0.12
	8/25/2020	11–11.5	23				
SB-101	8/25/2020	2–2.7	19	20,000	260	5.4 U	0.075 U
	8/24/2020	4–4.5	14				
SB-102	8/24/2020	6–6.5	73	18,000	240	5.8 U	0.075 U
	8/24/2020	7.5–8	43				
	8/24/2020	2.7-3.2	77	21,000	320	5.4 U	0.57
CD 402	8/24/2020	5.5–6	50				
SB-103	8/24/2020	7–7.5	76				
	8/24/2020	9.2–9.7	45				
CD 46:	8/24/2020	3–3.5	64	18,000	250	5.5 U	0.15
SB-104	8/24/2020	6.5–7	35				

### Notes:

Not available

**RED/BOLD** Detected exceedance of background and MTCA Method A.

**RED/BOLD** Detected exceedance of background, MTCA Method A, and site CUL.

### **Abbreviations:**

bgs Below ground surface

COC Chemical of concern

CUL Cleanup level

mg/kg Milligrams per kilogram

MTCA Model Toxics Control Act

### Qualifiers:

- $\ensuremath{\mathsf{J}}$  Analyte was detected, concentration is considered to be an estimate.
- U Analyte was not detected at the given reporting limit.
- UJ Analyte was not detected at the given reporting limit, which is considered to be an estimate.

Table 3.2 **Groundwater COC Analytical Results** 

	Analyte Class	Prima	ry COC		Oth	er COCs	1	1
	Analyte	Arse	enic	Pentachlorophenol	Gasoline-range organics	Diesel-range organics	Oil-range organics	Total TPH (GRO, DRO, & ORO)
	Fraction	Dissolved	Total	Total	Total	Total	Total	Total
	Site CUL	5.0	5.0	7.29				10,000
	Unit	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L
Location	Sample Date							
LLMW-18S	9/11/2020	58	62					
	3/4/2021	24	27					
LLMW-18D	9/10/2020	0.50 U	1.0 U					
	3/4/2021	1.0 U	2.7					
LLMW-19D	9/10/2020 3/1/2021	21 21	24 28					<u> </u>
	9/11/2020	16	16					
LLMW-20D	3/1/2021	9.5	12 JB					
LLMW-21S	3/3/2021	2.9	4.6					
	9/10/2020	0.50 U	1.0 U					
LLMW-21D	3/3/2021	1.0 U	1.0 U					
MW-01S	9/10/2020	5.4	3.6 JQ					
INI NA-OTO	3/1/2021	1.4	3.3 JB					
MW-01D	9/10/2020	0.50 U	2.5					
	3/3/2021	9.4	9.7					
MW-02S	3/2/2021	5.5	8.5 JB					
MW-02D	9/10/2020	4.8	3.9					-
	3/2/2021	3.0	3.1 JB					
MW-03S	3/2/2021 9/10/2020	12 19	9.8 20					<u> </u>
MW-03D	3/2/2021	40	47					
	9/10/2020	25	24					
MW-04S	3/2/2021	3.6	5.5					
MW-04D	9/11/2020	180	230					
MW-04D	3/4/2021	190	170					
MW-05S	9/10/2020	1,200	1,000					
IVIVV-055	3/2/2021	1,200	1,200					
MW-05D	9/11/2020	48	57					
10100 032	3/2/2021	190	180					
MW-06S	9/10/2020	45	39					
	3/2/2021	1.0 U	2.6					
MW-06D	9/11/2020	0.50 U	1.0 U					
	3/2/2021	1.2 <b>500</b>	1.7 JB <b>450</b>					
MW-07S	9/10/2020 3/2/2021	250	240					<u> </u>
	9/11/2020	0.50 U	1.0 U					
MW-07D	3/3/2021	1.0 U	2.1					
NAVA / 0000	9/11/2020	290	310					
MW-08S	3/3/2021	540	520					
MW-08D	9/11/2020	0.50 U	1.9					
1V1 V V - UOD	3/3/2021	1.0 U	1.0 U					
MW-09S	9/14/2020	110	110					
	3/1/2021	45	47					
MW-09D	9/11/2020	0.50 U	1.0 U					
	3/1/2021	1.0 U 0.50 U	1.0 U 2.1					
MW-10D	9/10/2020 3/1/2021	1.0 U	2.1 1.0 U					
	9/11/2020	1.0 0 1,700	1,800	2.0 U	3,000	330 (1)	1,600	4,900
PZ-1A	3/3/2021	1,400	1,400	0.5 UJ	11,000	670 J	1,900	13,000
D7 4 D	9/10/2020	130	120		,,,,,,		,	-,
PZ-1B	3/1/2021	70	71					
PZ-2A	9/11/2020	260	270	2.0 U	50 U	50 U	220	220
1 L-LM	3/3/2021	140	130	0.49 U	50 U	99 U	140	140
PZ-2B	9/15/2020	130	140					
	3/1/2021	1.0 U	1.7					
PZ-2D	9/11/2020	0.50 U	1.0 U					
	3/1/2021	1.0 U	1.7 JB	2 2	4.000	4.5 (1)	4.500	2 700
PZ-3A	9/11/2020	630	700	2.0 U	1,200	110 (1)	1,500	2,700
D7 2D	3/3/2021	180	160	0.49 U	50 U	99 U	99 U	99 U
PZ-3B	3/1/2021	8.3	14 JB					<u> </u>

**RED/BOLD** Detected exceedence of Site CUL

1 Laboratory noted the chromatogram indicates unresolved compounds in the diesel range inconsistent with a known petroleum standard.

### Abbreviations:

COC Chemical of concern CUL Cleanup level

 $\mu g/L$  Micrograms per liter ORO Oil-range organics

DRO Diesel-range organics

GRO Gasoline-range organics

### Qualifiers:

- $\ensuremath{\mathsf{J}}$  Analyte was detected, concentration is considered to be an estimate.
- $\ensuremath{\mathsf{JB}}$  Concentration is estimated due to presence of blank contamination.
- JQ Concentration is an estimated value reported below the associated quantitation limit but above the MDL.
- U Analyte was not detected at the given reporting limit.
- $\mbox{UJ\ }$  Analyte was not detected at the given reporting limit, which is considered to be an estimate.

F L O Y D | S N I D E R

Table 3.3
Groundwater Geochemical Parameter Analytical Results

	Analyte Class	yte Class Dissolved Metals Major Cations Major Anions Alkalinity Major Ions Conventionals and Other Ions										Other lons						
	Allalyte Class	DISSUIVE	eu ivietais		Iviaje	oi Cations			iviajoi <i>F</i>	AIIIOIIS		Alkalinity	Iviajor ioris	Nitrate	Nitrite	lionais and C	Dissolved	Total Organic
	Analyte	Iron	Manganese	Calcium	Magnesium	Potassium	Sodium	Bromide	Chloride	Fluoride	Sulfate	(as CaCO <sub>3</sub> )	Orthophosphate	(as Nitrogen)	(as Nitrogen)	Sulfide	Organic Carbon	Carbon
	Fraction	Dissolved	Dissolved	Total	Total	Total	Total	Total	Total	Total	Total	Dissolved	Total	Total	Total	Dissolved	Dissolved	Total
	Site CUL	-							-		-							
	Unit	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Location	Sample Date																	
LLMW-18S	9/11/2020	130,000	2,000	98,000	85,000	18,000	99,000	8 U	380	2 U	6 U	300	4 UJ	3.6 J	2 UJ	1.6	18	20
LLIVIVV-103	3/4/2021	110,000	2,400	110,000	76,000	18,000	120,000	4 U	250	0.8 U	28	460	5.3 U	1 U	1 UJ	3	32	31
LLMW-18D	9/10/2020	100 U	43	56,000	73,000	14,000	64,000	0.81	26	0.5 U	53	500	1 U	0.5 U	0.5 U	6.2	7.8	7.9
LLIVIVV-10D	3/4/2021	260	44	57,000	65,000	13,000	91,000	0.8 U	27	0.22	47	490	1.1 UJ	0.2 UJ	0.2 UJ	5	8.4	8.4
LLMW-19D	9/10/2020	520	220	41,000	51,000	14,000	100,000	2 U	76	0.5 U	3.9	410	1.6 JB	0.5 U	0.5 U	8.8	10	11
	3/1/2021	1,200	380	52,000	16,000	7,400	48,000	0.8 U	38	0.39	6.2	220	1.1 U	0.2 UJ	0.2 UJ	1.2	7.5	8
LLMW-20D	9/11/2020	380	400	150,000	330,000	99,000	2,200,000	40 U	4,300	10 U	580	110	20 UJ	10 UJ	10 UJ	0.05 U	2.6	2.8
	3/1/2021	100 U	30	35,000	72,000	33,000	660,000	16 U	930	3.2 U	220	160	21 U	4 UJ	4 UJ	0.5 U	6.1	5.6
LLMW-21S	3/3/2021	610	59	57,000	11,000	4,100	17,000	0.8 U	0.35	0.16 U	7.2	150	1.1 UJ	0.2 UJ	0.2 UJ	0.8	2.1	2
LLMW-21D	9/10/2020	100 U	43	44,000	31,000	13,000	59,000	0.8 U	26	0.2 U	4.9	300	0.75 JB	0.2 U	0.2 U	11	5.8	5.8
	3/3/2021	100 U	33	34,000	26,000	11,000	71,000	0.4 U	24	0.15	7.9	290	0.53 UJ	0.1 UJ	0.1 UJ	8.2	6.6	6.5
MW-01S	9/10/2020	850	55	360,000	930,000	250,000	6,300,000	200 U	12,000	10 U	1,700	49	20 U	10 U	10 U	1.4	0.54	0.73
	3/1/2021	310	10	300,000	790,000	190,000	5,800,000	80 U	11,000	16 U	1,300	48	110 U	20 UJ	20 U	0.5 U	0.5 U	0.5 U
MW-01D	9/10/2020	4,100	160	59,000	82,000	29,000	480,000	16 U	920	1 U	140	220	2 U	1 U	1 U	2	5.7	5.7
	3/3/2021	2,200	72	37,000	61,000	29,000	670,000	16 U	1,100	3.2 U	160	150	21 U	4 UJ	4 U	0.6	5.8	5.8
MW-02S	3/2/2021	110	4.7	21,000	20,000	8,100	140,000	2 U	110	0.41	65	200	2.6 U	0.55 J	0.5 UJ	0.6	7	7
MW-02D	9/10/2020	24,000	1,500	49,000	98,000	34,000	510,000	16 U	1,000	1.9	110	340	2 U	1 U	1 U	1.4	15	15
	3/2/2021	20,000	980	36,000	82,000	22,000	530,000	16 U	750	3.2 U	76	370	21 U	4 UJ	4 U	1.2	15	15
MW-03S	3/2/2021	690	24	21,000	5,000	8,100	66,000	2 U	120	0.4 U	9.4	16	2.6 U	1.2 J	0.5 UJ	0.5 U	4.3	4.5
MW-03D	9/10/2020	16,000	300	11,000	29,000	11,000	95,000	2 U	43	2.9	1.5 U	340	1.1 JB	0.5 U	0.5 U	2.6	9	10
	3/2/2021	19,000	290	8,100	27,000	9,100	100,000	0.8 U	48	4.2	1.2 U	340	1.1 U	0.2 UJ	0.2 UJ	0.8	10	10
MW-04S	9/10/2020	8,000	1,700	170,000	230,000	36,000	750,000	40 U	2,000	2 U	250	12	4 U	2 U	2 U	1.4	1.8	2.1
	3/2/2021	110	9.8	2,600	1,300	750	63,000	0.8 U	78	0.16 U	6.9	9.1	1.1 UJ	0.2 UJ	0.2 UJ	0.6	5.7	4.4
MW-04D	9/11/2020	10,000	270	15,000	11,000	4,500	120,000	4 U	170	1.2	16	69	0.4 U	0.2 U	0.2 U	0.5 U	6.2	7
	3/4/2021	29,000	600	36,000	16,000	6,400	180,000	4 U	280	1	34	51	5.3 U	1 U	1 UJ	0.5 U	4.5	4.5
MW-05S	9/10/2020	5,100	260	41,000	56,000	31,000	420,000	16 U	670	1 U	100	280	2 U	1 U	1 U	0.5 U	10	11
	3/2/2021	53,000	2,400	97,000	30,000	8,000	35,000	0.4 U	11	0.32	17	450	0.53 U	0.1 UJ	0.1 UJ	1	15	14
MW-05D	9/11/2020	23,000	1,400	32,000	28,000	11,000	130,000	0.8 U	38	0.7	0.71	400	1.6 JB	0.53	0.2 UJ	3.2	14	15
	3/2/2021	35,000	2,600	40,000	40,000	11,000	280,000	1.4	400	2 11	9.3	430	1.1 U	0.2 UJ	0.2 UJ	1 0.05 u.(1)	16	16
MW-06S	9/10/2020	16,000	2,200	450,000	290,000	31,000	620,000	40 U	2,100	2 U	280	98	4 U	2 U	2 U	0.05 U <sup>(1)</sup>	2.8	3.1
	3/2/2021	100 U	15	36,000	10,000	2,000	12,000	0.4 U	1.5	0.23	30	130	0.53 U	0.21 J	0.1 UJ	0.5 U	3.5	3.4
MW-06D	9/11/2020	4,500	110	15,000	25,000	11,000	130,000	1.6 U	62	0.37	1.1	350	0.74 JB	0.2 U	0.2 U	0.8	9.6	11
	3/2/2021	8,300	240	13,000	29,000	10,000	130,000	0.8 U	90	0.36	1.2 U	340	1.1 U	0.2 UJ	0.2 U	1	10	10
MW-07S	9/10/2020	21,000	2,400	110,000	15,000	7,000	22,000	0.4 U	3	0.86	0.61	360	0.2 UJ	0.23 J	0.1 UJ	0.5 U	15	15
-	3/2/2021	28,000	2,000	96,000	27,000	9,900	74,000	0.4 U	5.5	0.64	15	510	0.53 U	0.1 UJ	0.1 U	1.4	17	17
MW-07D	9/11/2020	7,500	210	17,000	31,000	14,000	160,000	1.6 U	77	0.55	2.7	440	1 U	0.5 U	0.5 U	1.8	14	15
	3/3/2021	6,200	200	17,000	34,000	14,000	190,000	2 U	80	0.54	3 U	450	2.6 U	0.5 UJ	0.5 U	0.8	15	14

F L O Y D | S N I D E R

Table 3.3
Groundwater Geochemical Parameter Analytical Results

	Analyte Class	Dissolve	ed Metals		Majo	or Cations			Major A	Anions		Alkalinity	Major lons		Convent	tionals and C	Other Ions	
												Alkalinity		Nitrate	Nitrite		Dissolved	Total Organic
	Analyte	Iron	Manganese	Calcium	Magnesium	Potassium	Sodium	Bromide	Chloride	Fluoride	Sulfate	(as CaCO <sub>3</sub> )	Orthophosphate	(as Nitrogen)	(as Nitrogen)	Sulfide	Organic Carbon	Carbon
	Fraction	Dissolved	Dissolved	Total	Total	Total	Total	Total	Total	Total	Total	Dissolved	Total	Total	Total	Dissolved	Dissolved	Total
	Site CUL																	
	Unit	μg/L	μg/L	μg/L	μg/L	μg/L	μg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Location	Sample Date																	
MW-08S	9/11/2020	15,000	1,300	57,000	17,000	12,000	75,000	0.4 U	6.8	1.2	11	370	0.2 UJ	0.11 J	0.1 UJ	0.5 U	13	14
	3/3/2021	39,000	1,300	110,000	20,000	5,700	22,000	0.4 U	8.2	0.91	10	380	0.53 U	0.1 UJ	0.1 U	1.2	14	14
MW-08D	9/11/2020	3,300	120	19,000	39,000	11,000	120,000	2 U	100	0.5 U	1.6	390	1 UJ	0.5 UJ	0.5 UJ	0.6	9.7	11
	3/3/2021	720	51	14,000	33,000	10,000	130,000	2 U	74	0.46	3 U	390	2.6 UJ	0.5 UJ	0.5 UJ	0.6	11	11
MW-09S	9/14/2020	8,800	360	71,000	9,300	7,500	31,000	0.4 U	18	0.63	31	220	0.2 UJ	0.1 UJ	0.1 UJ	0.6	4.3	5.2
	3/1/2021	9,300	340	81,000	16,000	7,200	23,000	0.8 U	17	0.89	74	240	1.1 U	0.3 J	0.2 U	0.5 U	5.1	4.8
MW-09D	9/11/2020	1,900	71	15,000	33,000	14,000	140,000	0.87	60	0.51	0.6 U	440	0.75 J	0.2 UJ	0.2 UJ	0.8	9.6	11
	3/1/2021	2,100	82	14,000	40,000	16,000	140,000	2 U	69	0.57	3 U	430	2.6 U	0.5 UJ	0.5 U	0.5 U	13	11
MW-10D	9/10/2020	3,000	170	30,000	69,000	20,000	160,000	2 U	100	0.5	1.5 U	560	1 U	0.5 U	0.5 U	2.2	15	4
	3/1/2021	360	33	26,000	54,000	20,000	160,000	2 U	100	0.51	5	800	2.6 U	0.5 UJ	0.5 U	2.8	15	16
PZ-1A	9/11/2020	33,000	2,000	72,000	33,000	19,000	150,000	2.3	74	1.6	1.2 U	590	0.8 UJ	0.4 UJ	0.4 UJ	3.2	25	27
	3/3/2021	38,000	2,300	80,000	33,000	16,000	160,000	2.4	79	1.4	3 U	600	2.6 U	0.5 UJ	0.5 U	2.6	26	27
PZ-1B	9/10/2020	16,000	1,500	55,000	13,000	14,000	31,000	0.8 U	13	1.1	1.3	250	0.41 JB	0.52	0.2 U	0.6	14	14
	3/1/2021	23,000	1,600	67,000	15,000	9,400	27,000	0.45	27	0.89	1.8	280	0.53 U	0.1 UJ	0.1 U	1	14	14
PZ-2A	9/11/2020	32,000	1,300	57,000	14,000	9,000	28,000	2 U	130	0.5 U	1.5 U	88	1 UJ	0.5 UJ	0.5 UJ	0.5 U <sup>(2)</sup>	7.3	8
	3/3/2021	35,000	1,300	54,000	12,000	7,300	35,000	2 U	130	0.4 U	3 U	100	2.6 UJ	0.5 UJ	0.5 UJ	0.8	6.5	6.7
PZ-2B	9/15/2020	460	27	60,000	8,600	2,900	8,700	0.8 U	11		29	160	0.4 U	0.2 U	0.2 U	0.5 U	11	9.4 JB
	3/1/2021	100 U	6.2	35,000	5,800	1,900	8,400	0.4 U	5.4	0.097	4.5	120	0.53 U	0.1 UJ	0.1 UJ	0.5 U	11	11
PZ-2D	9/11/2020	2,600	240	16,000	35,000	13,000	140,000	1.6 U	73	0.5	0.6 U	430	1.4 JB	0.21	0.2 U	0.8	12	14
	3/1/2021	3,300	250	15,000	45,000	13,000	130,000	2 U	74	0.6	3 U	410	2.6 U	0.5 UJ	0.5 U	0.5 U	13	13
PZ-3A	9/11/2020	53,000	1,400	46,000	17,000	9,000	58,000	0.8 U	32	5.6	0.87	280	0.4 UJ	0.24 J	0.2 UJ	1	13	14
	3/3/2021	5,400	52	27,000	6,800	5,000	150,000	0.8 U	130	2	47	120	1.1 U	0.35 J	0.2 U	0.5 U	5.4	5.4
PZ-3B	3/1/2021	100 U	3.5	9,000	21,000	16,000	440,000	4 U	440	0.8 U	210	120	5.3 U	1.6 J	1 U	0.5 U	9.2	9.1

### Notes:

### Abbreviations:

CUL Cleanup level

 $\mu g/L$  Micrograms per liter

mg/L Milligrams per liter

### Qualifiers:

- J Analyte was detected, concentration is considered to be an estimate.
- JB Analyte was detected, concentration is considered to be an estimate due to potential blank contamination.
- JQ Analyte was detected between the reporting limit and method detection limit, concentration is considered to be an estimate.
- U Analyte was not detected at the given reporting limit.
- UJ Analyte was not detected at the given reporting limit, which is considered to be an estimate.

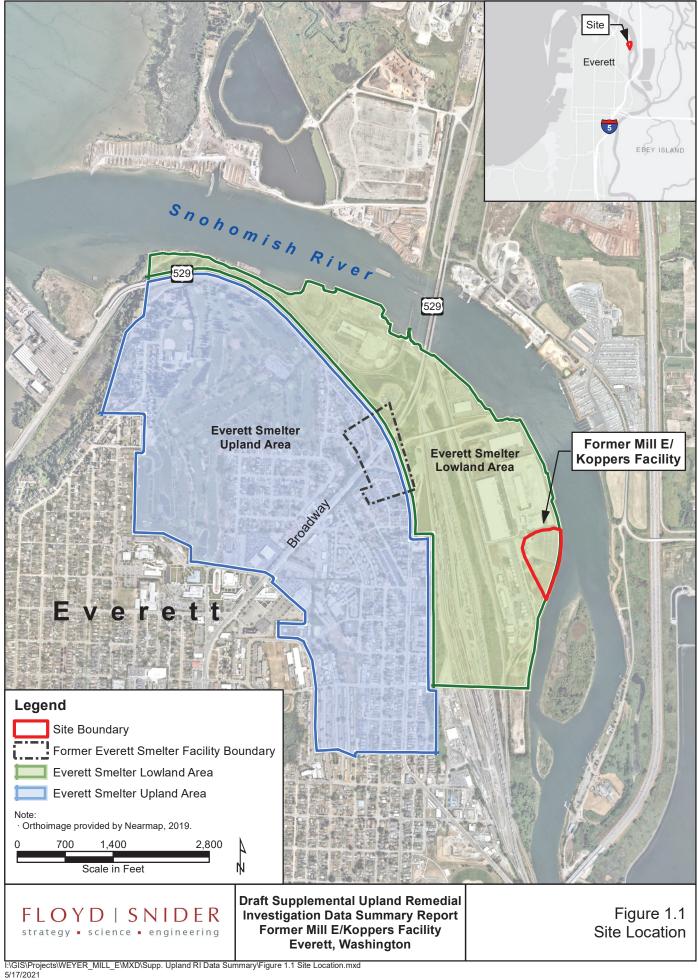
<sup>1</sup> Laboratory noted presence of oxidizers indicated during analysis.

<sup>2</sup> Laboratory noted possible strong oxidizers present.

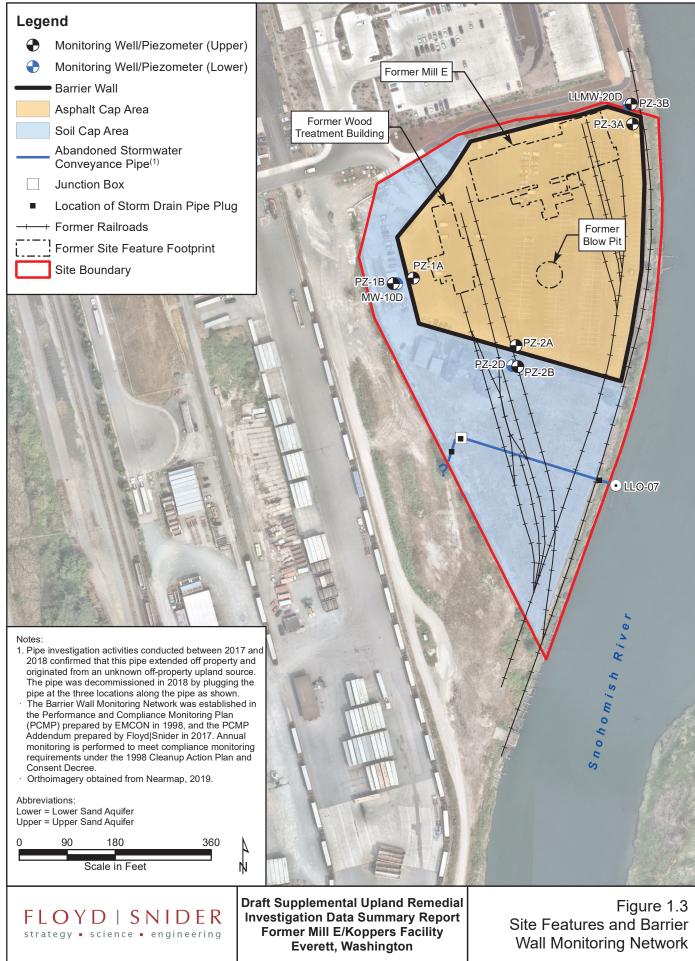
# Former Mill E/Koppers Facility

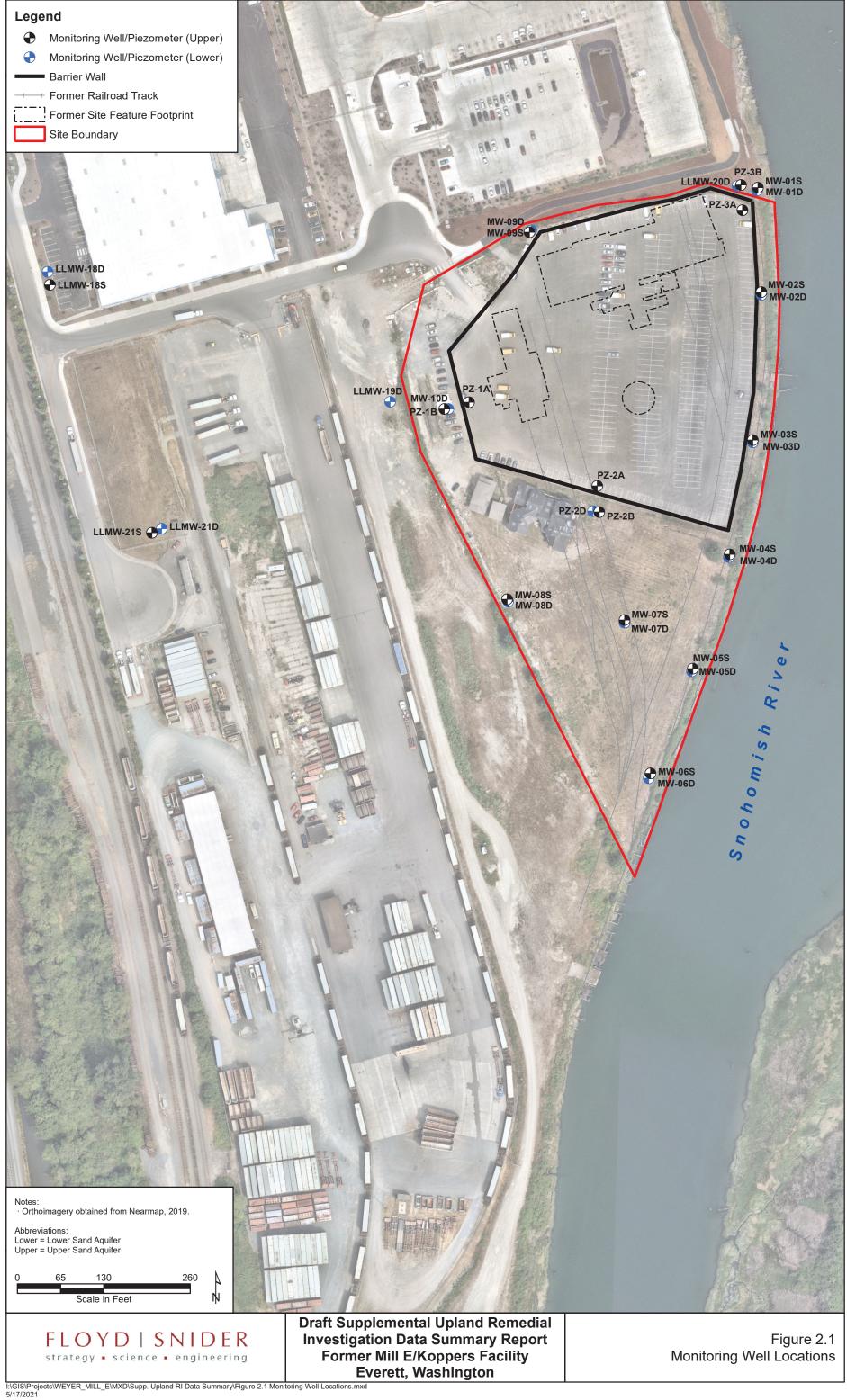
# Supplemental Upland Remedial Investigation Data Summary Report

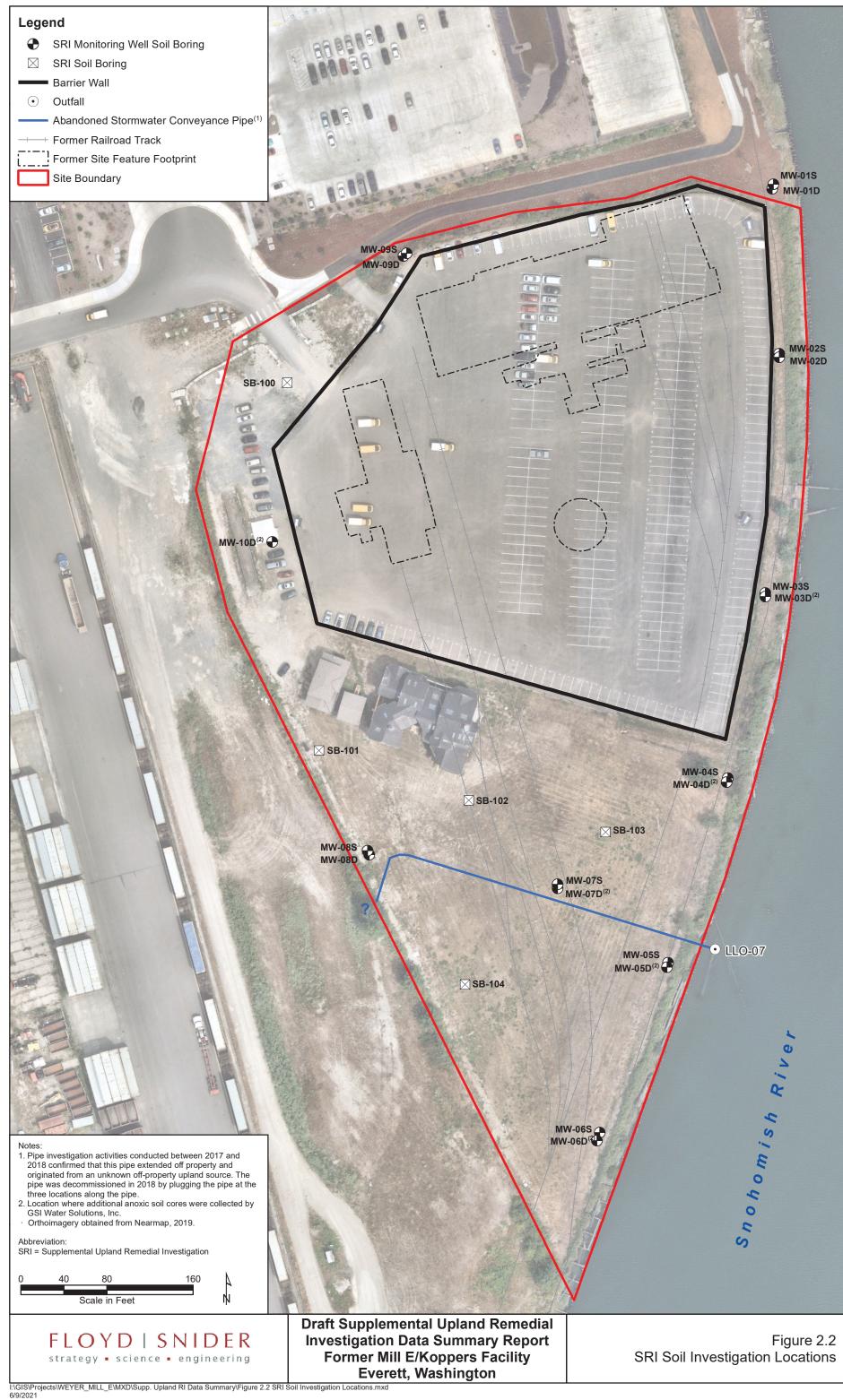
**Figures** 

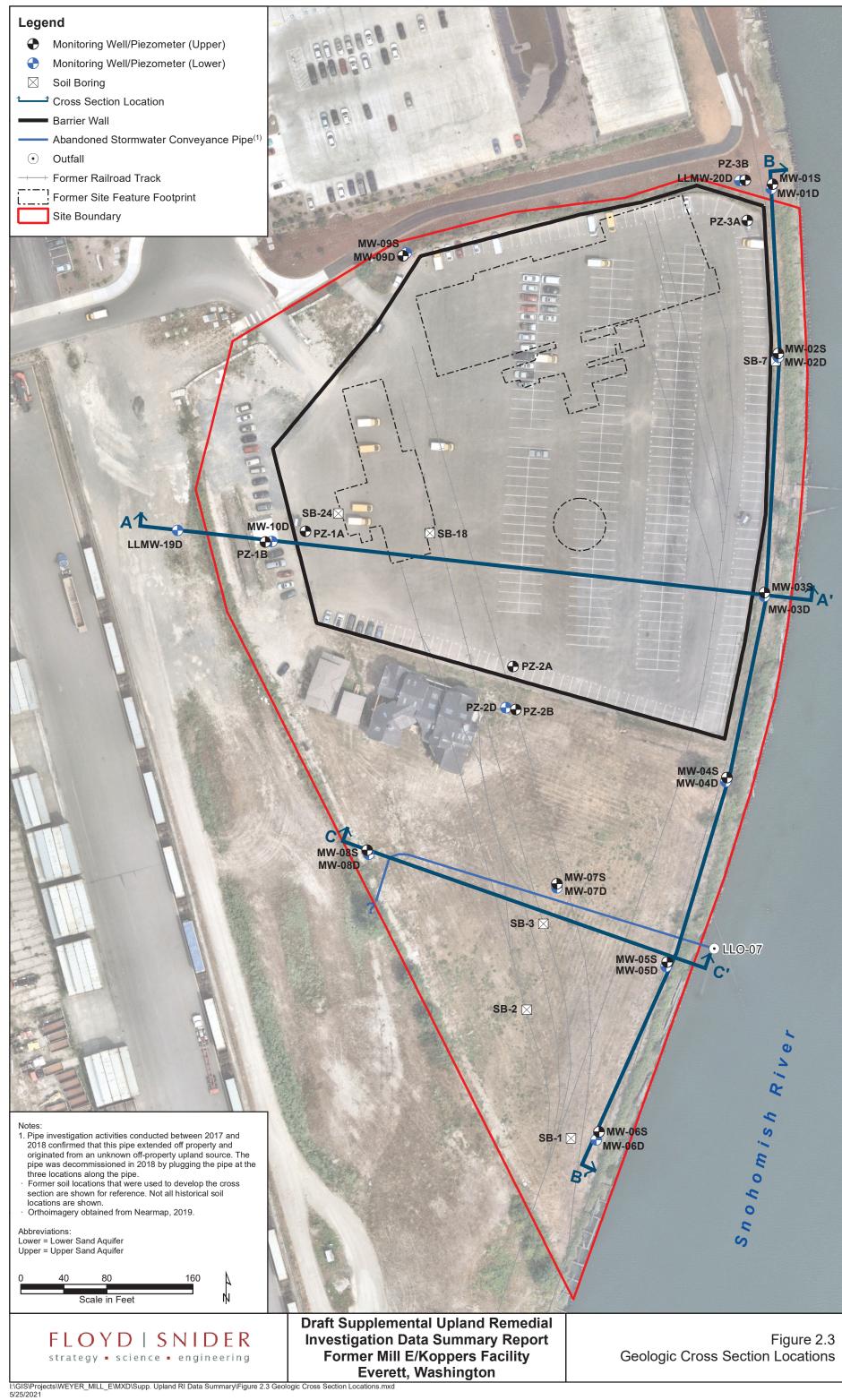


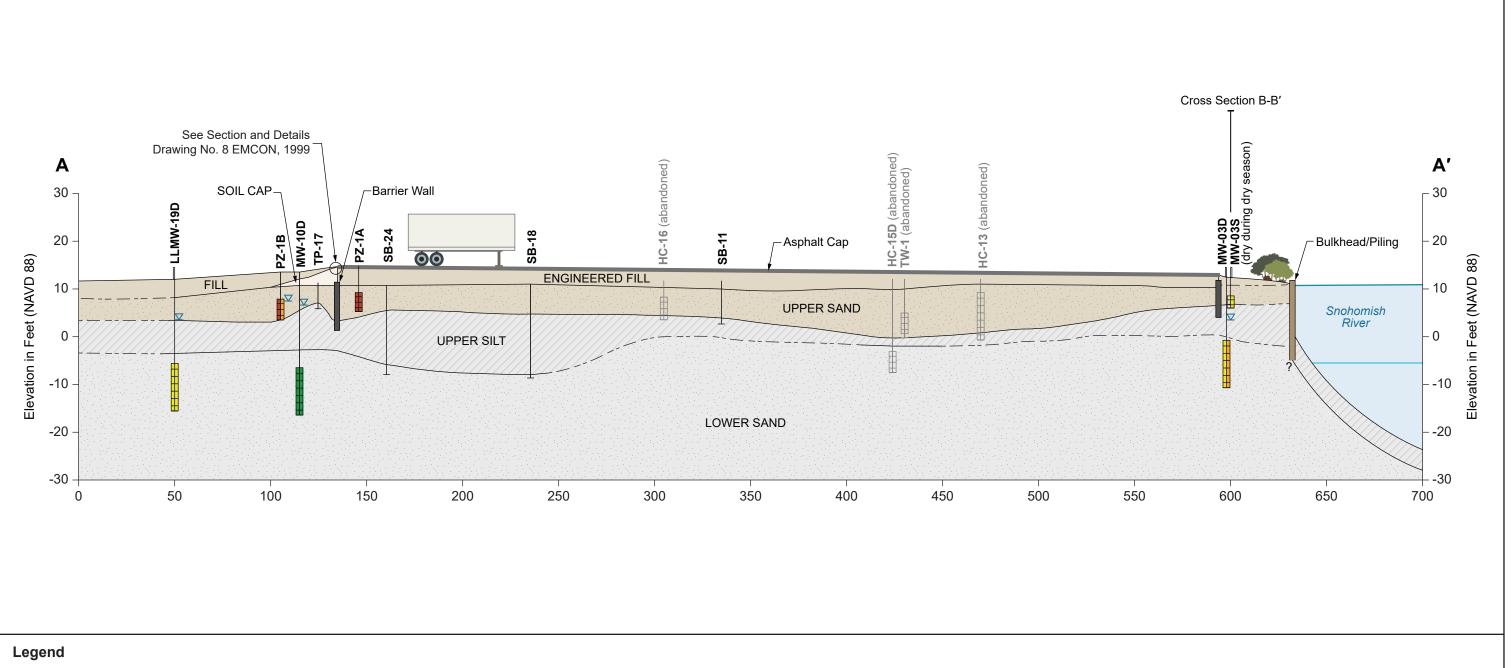


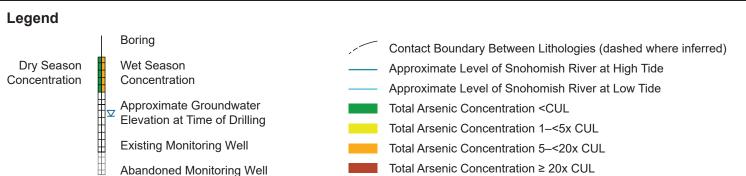










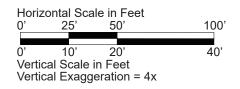


- Dry season represents data collected in September 2020 and wet season represents data collected in March 2021.
- Site CUL for arsenic in groundwater is 5 µg/L, which was established in the October 1998 Consent Decree.

Abbreviations: CUL = Cleanup level

μg/L = Micrograms per liter

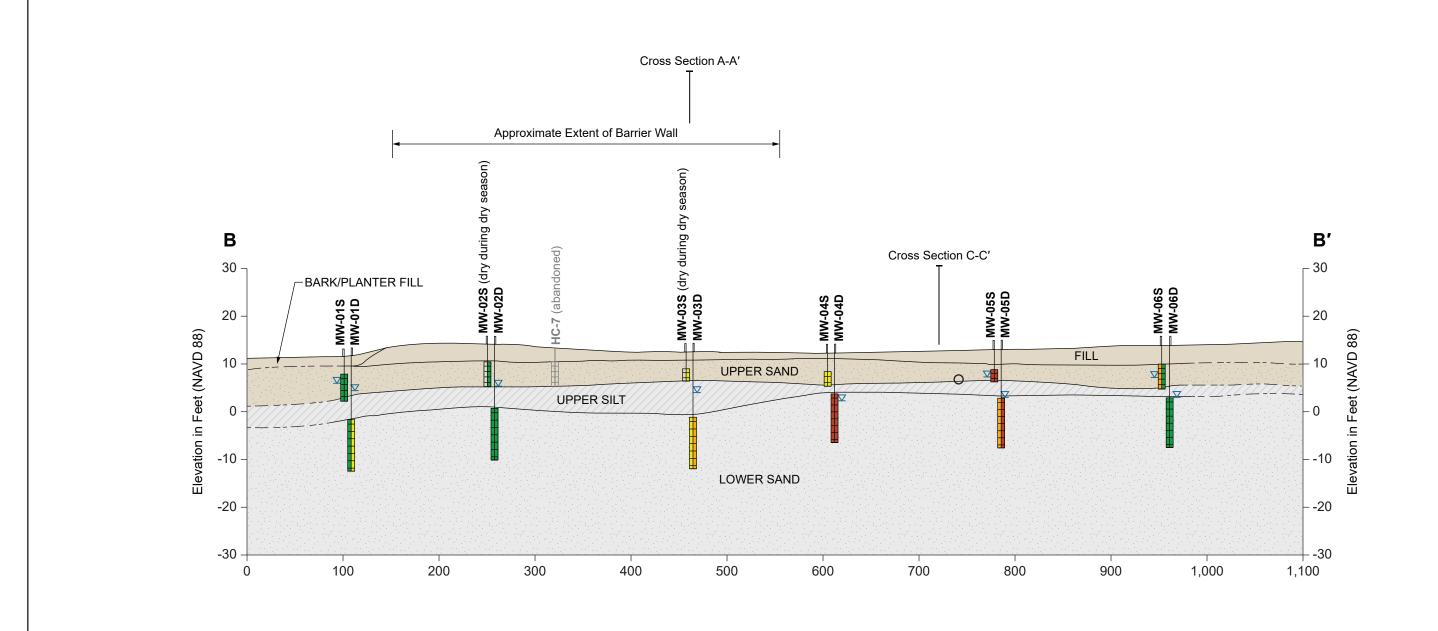
NAVD 88 = North American Vertical Datum of 1988

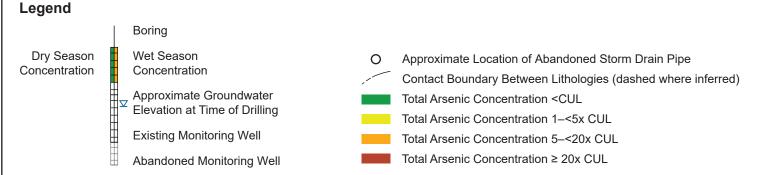


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**Draft Supplemental Upland Remedial Investigation Data Summary Report** Former Mill E/Koppers Facility **Everett, Washington** 

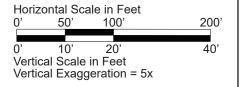
Figure 2.4 Cross Section A-A'





- Dry season represents data collected in September 2020 and wet season represents data collected in March 2021.
- Site CUL for arsenic in groundwater is 5  $\mu g/L$ , which was established in the October 1998 Consent Decree.

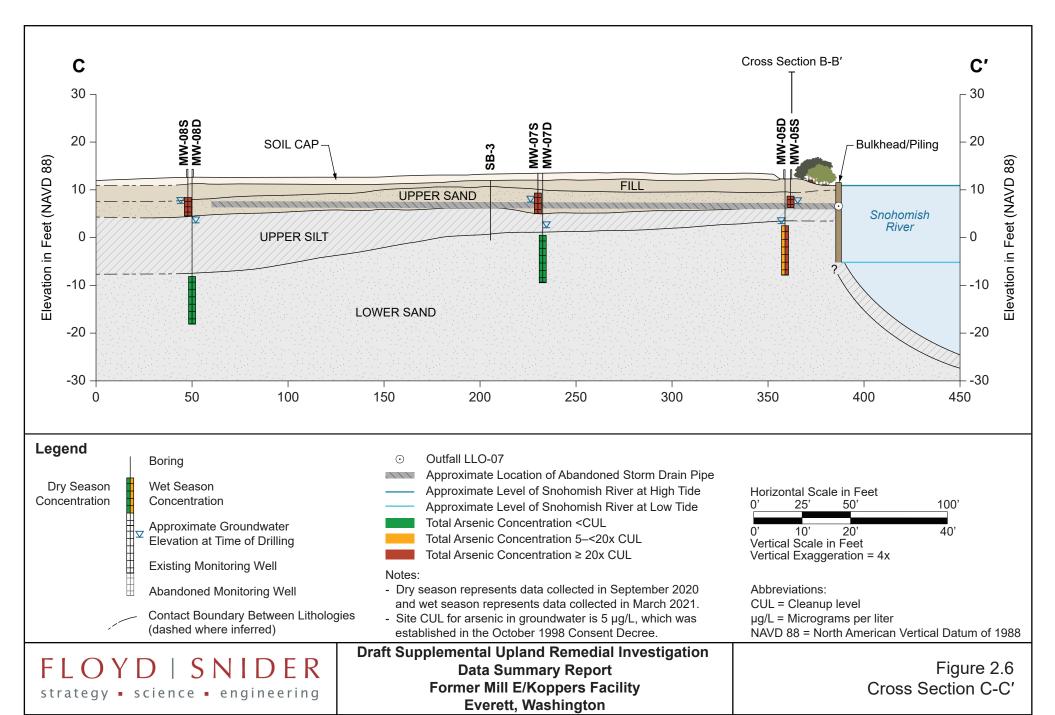
Abbreviations: CUL = Cleanup level μg/L = Micrograms per liter NAVD 88 = North American Vertical Datum of 1988

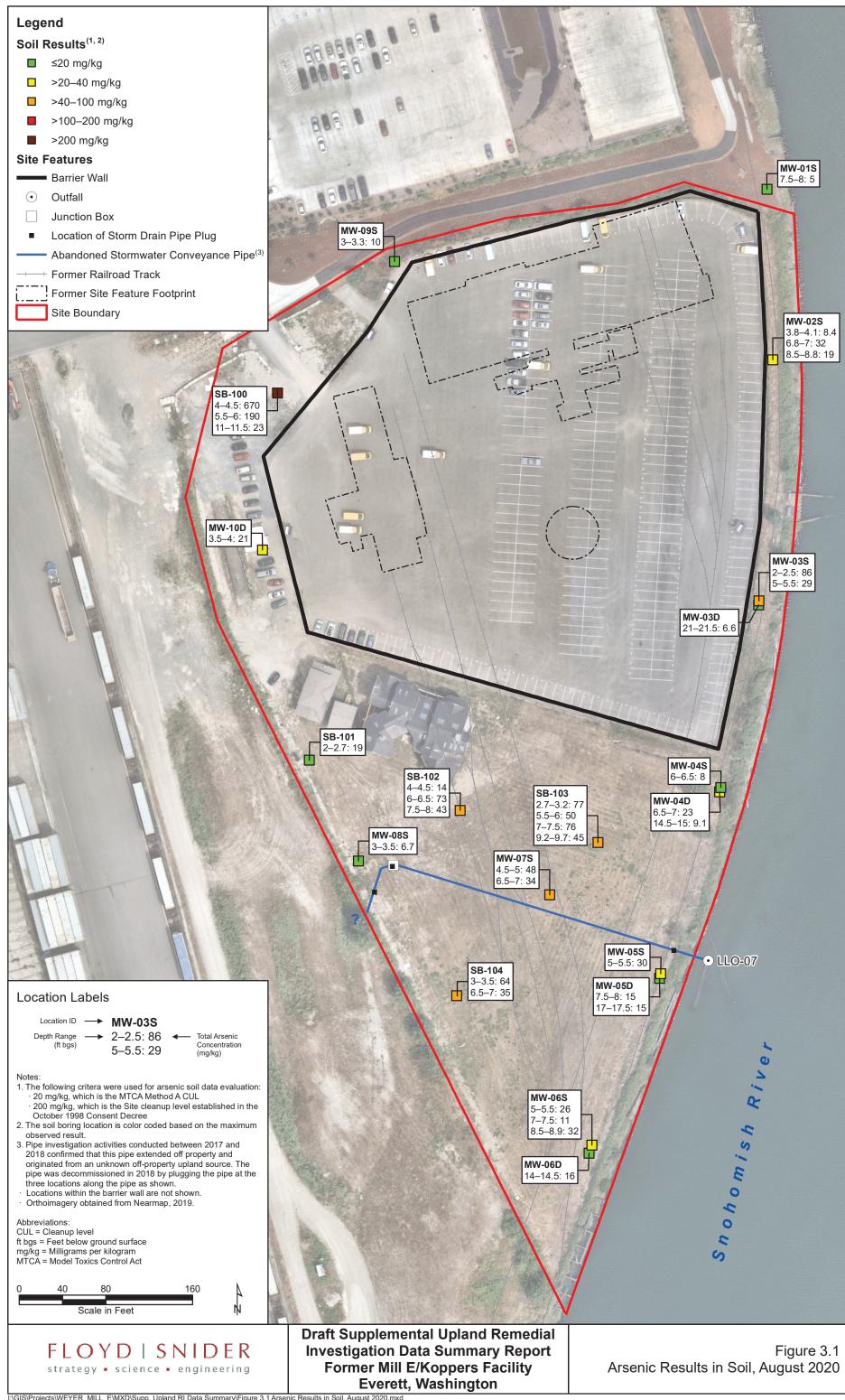


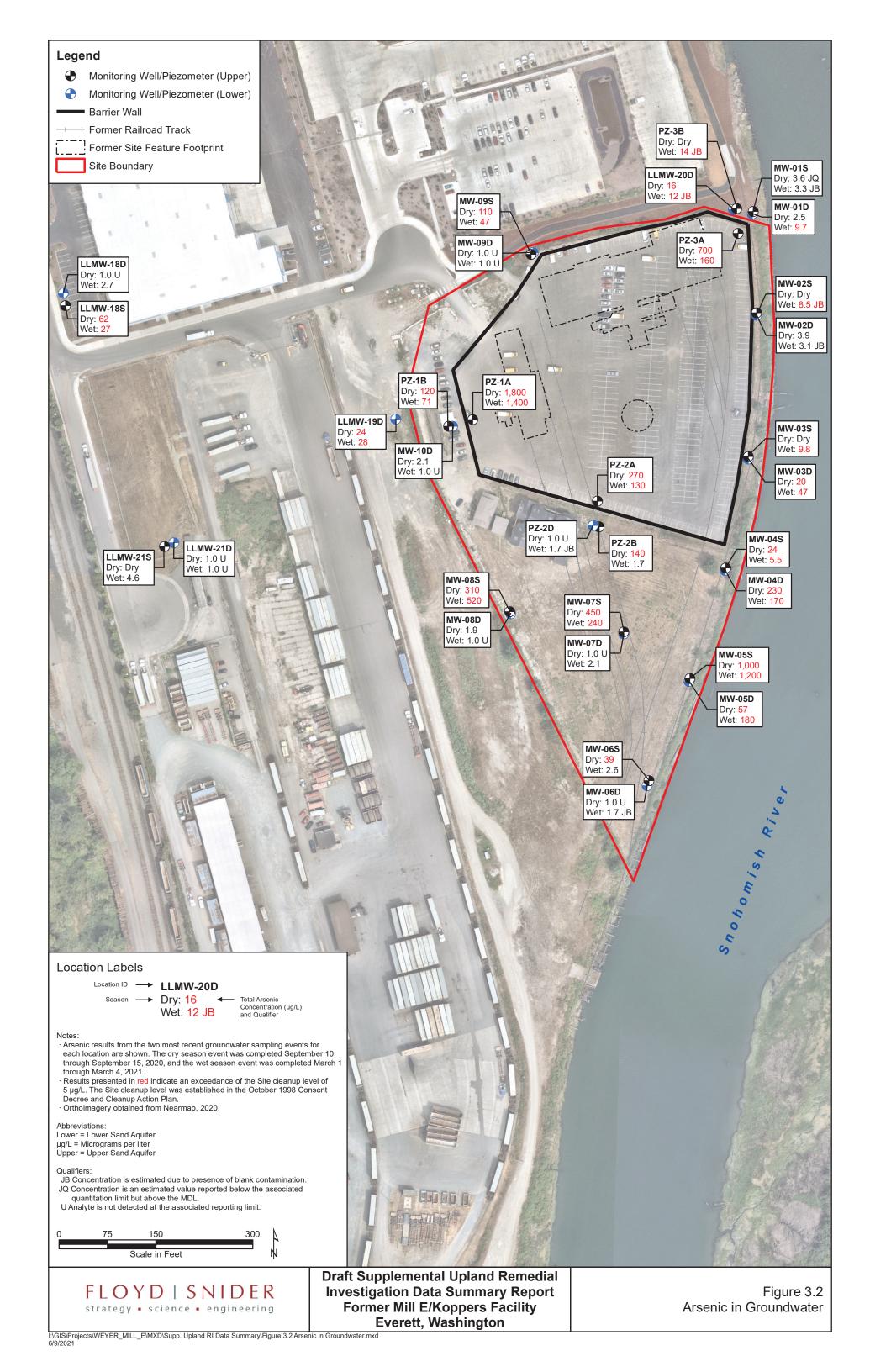
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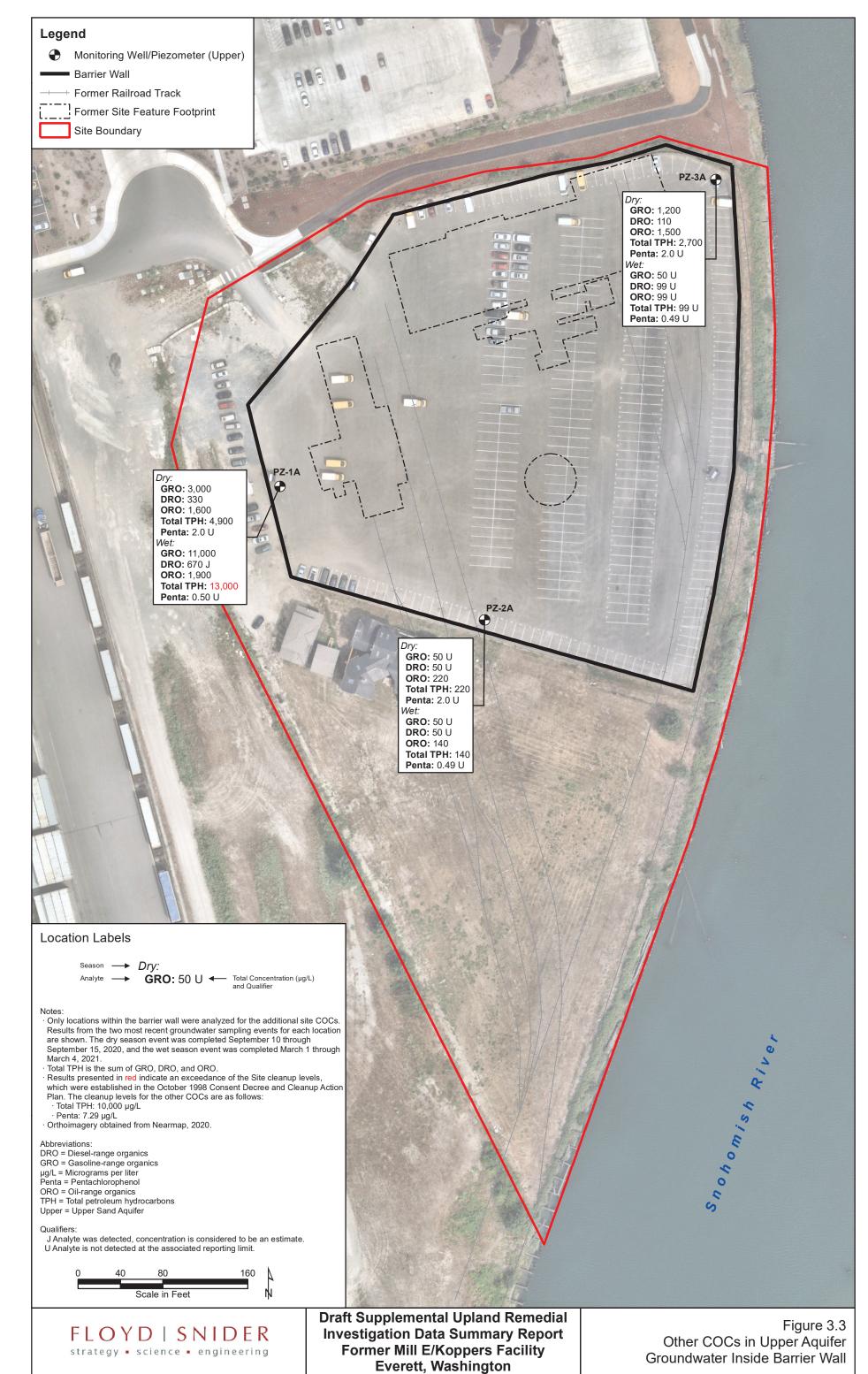
**Draft Supplemental Upland Remedial Investigation Data Summary Report** Former Mill E/Koppers Facility **Everett, Washington** 

Figure 2.5 Cross Section B-B'

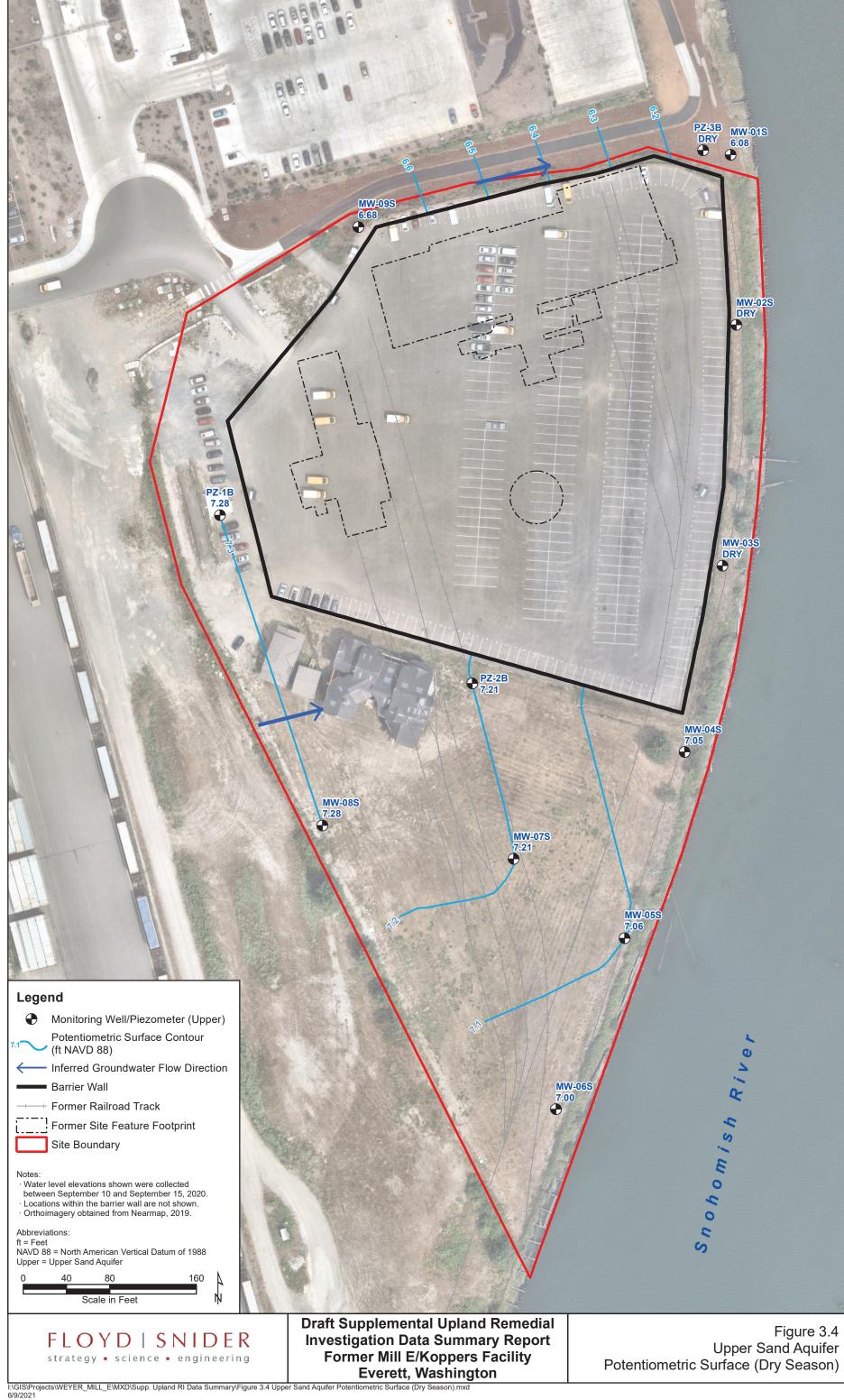


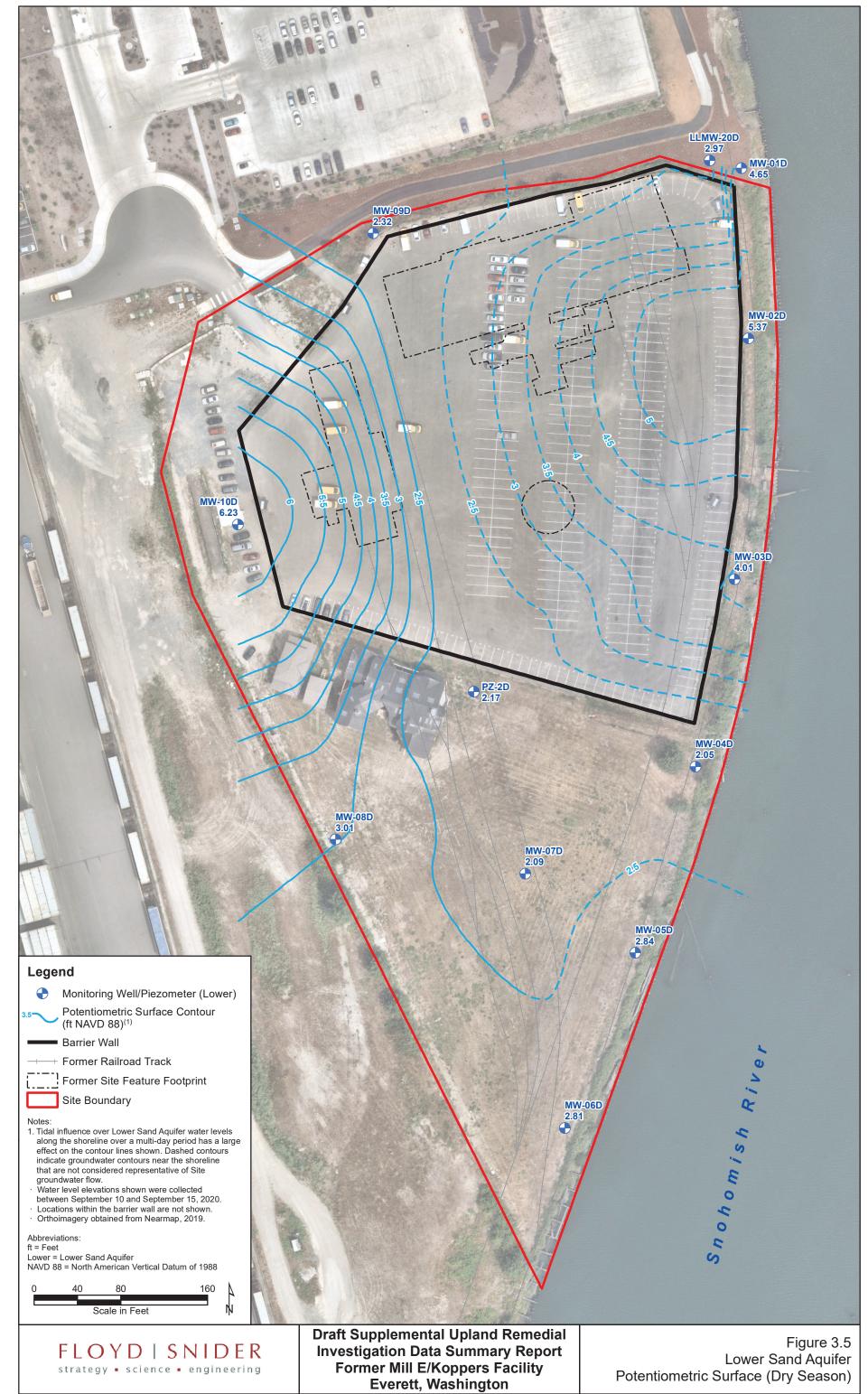




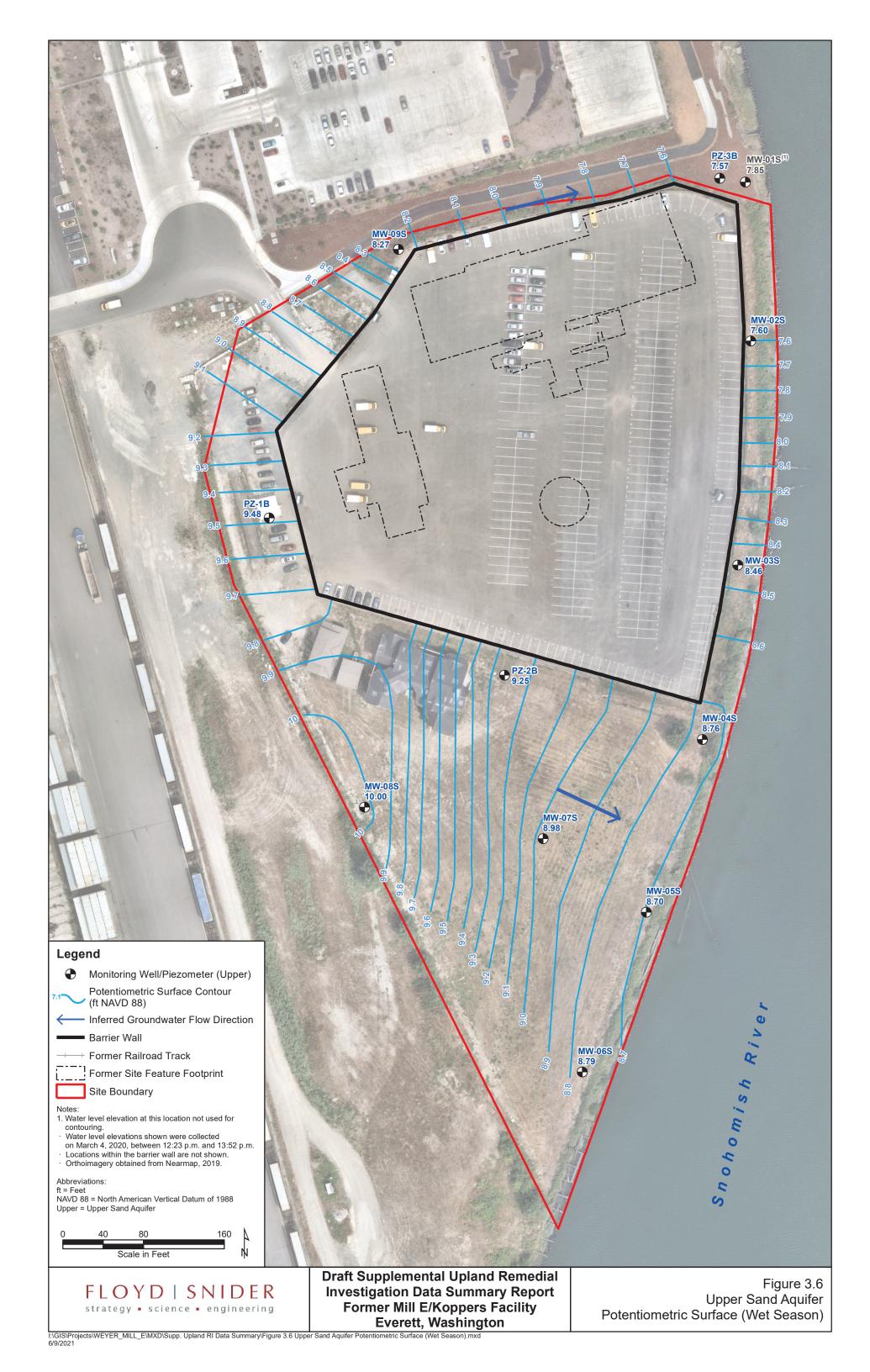


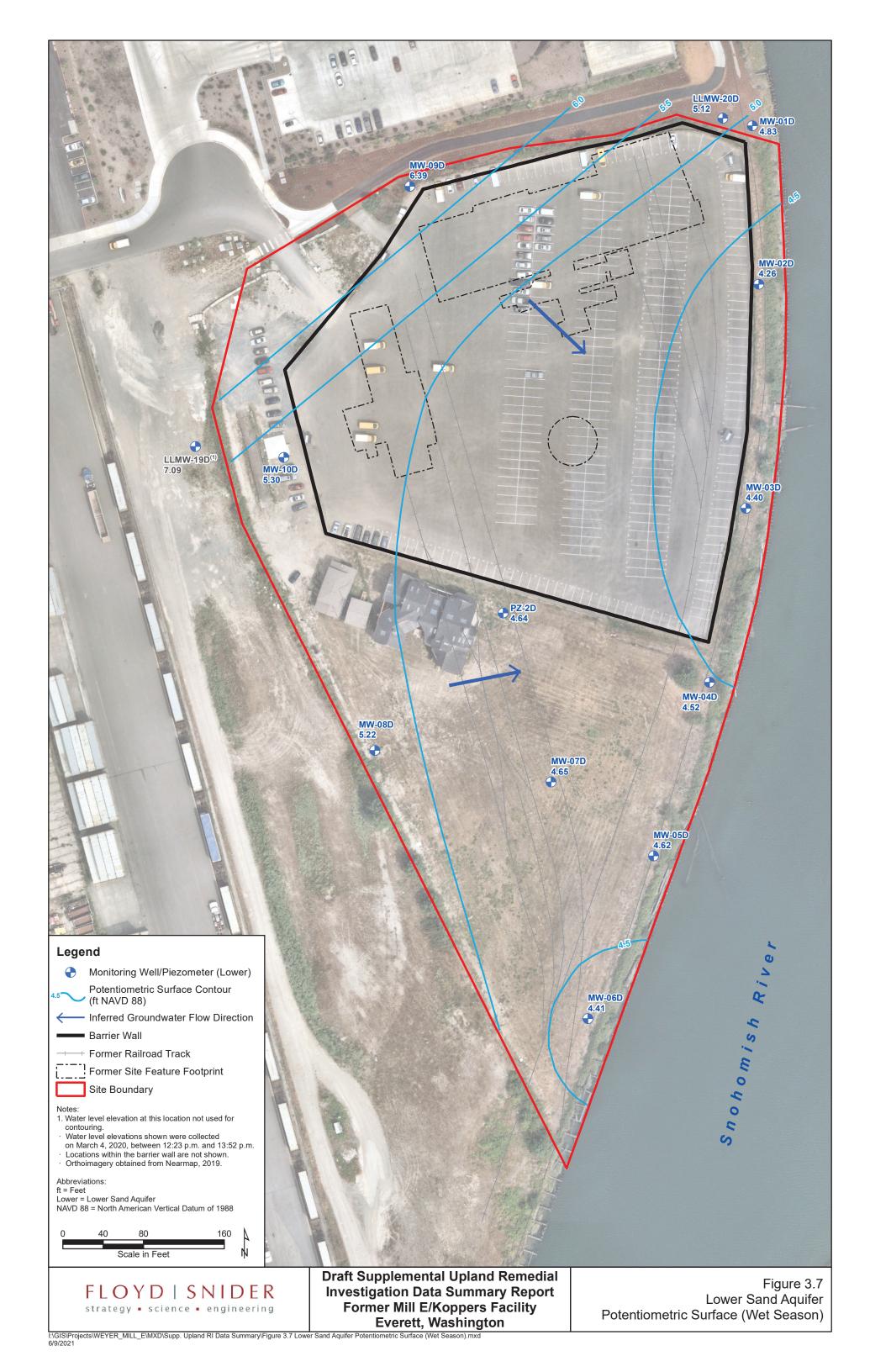
L'GIS\Projects\WEYER\_MILL\_E\MXD\Supp. Upland RI Data Summary\Figure 3.3 Other COCs in Upper Aquifer Groundwater Inside Barrier Wall.mxc 6/11/2021





L:\GIS\Projects\WEYER\_MILL\_E\MXD\Supp. Upland RI Data Summary\Figure 3.5 Lower Sand Aquifer Potentiometric Surface (Dry Season).mxd 6/9/2021





## Former Mill E/Koppers Facility

## Supplemental Upland Remedial Investigation Data Summary Report

# Appendix A Soil Boring/Well Completion Logs

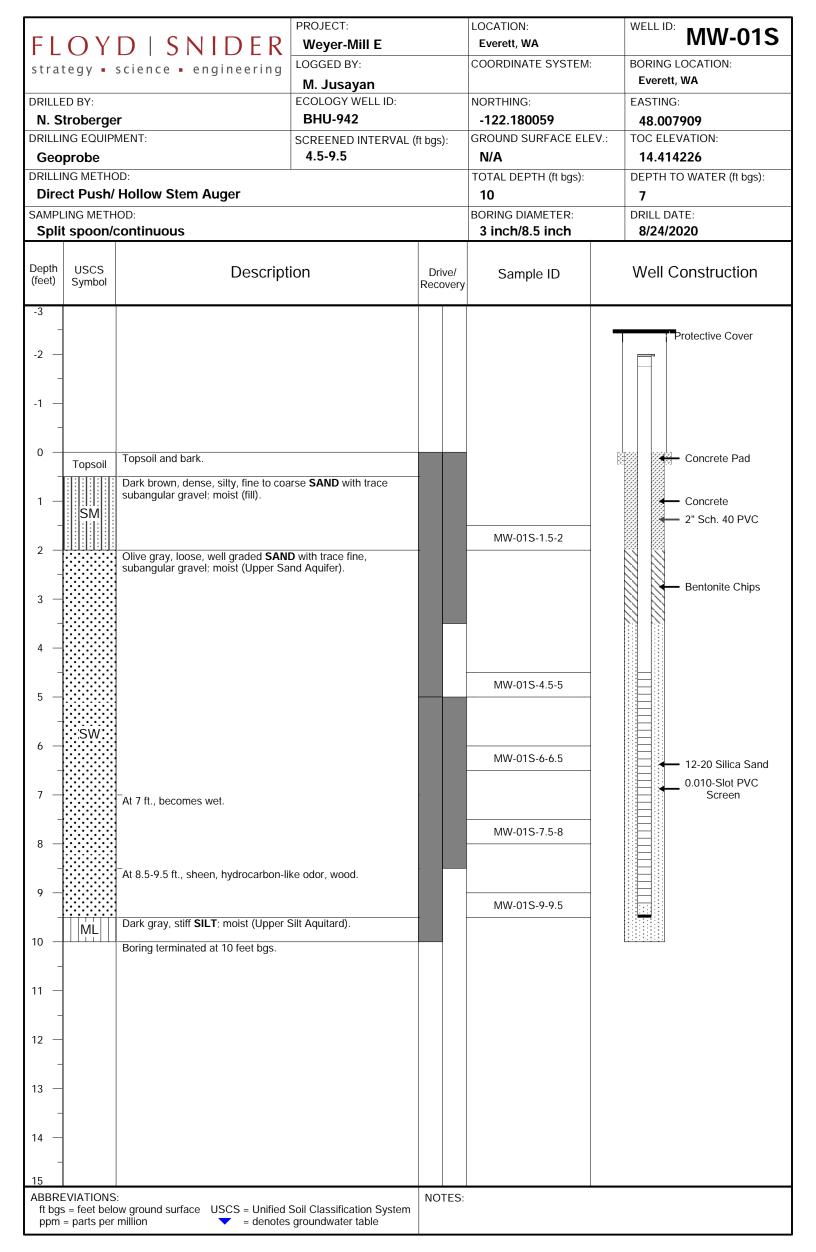
ELOVD I CNIDED	<b>PROJECT</b> : Weyer-Mill E	LOCATION: E	verett, WA	BORING ID: SB-100
FLOYD   SNIDER	LOGGED BY:	BORING LOCAT	ION:	02 100
strategy • science • engineering	M. Jusayan	Everett, WA		
DRILLED BY:	-	NORTHING:	1	EASTING:
N. Stroberger		-122.181891		48.007382
DRILLING EQUIPMENT: Geoprobe		SURFACE ELEVATION:	13.62	COORDINATE SYSTEM: NAVD88
DRILLING METHOD:		TOTAL DEPTH	(ft bgs):	DEPTH TO WATER (ft bgs):
Direct Push		13		Not encountered
SAMPLING METHOD/SAMPLER LENGTH: Continuous		BORING DIAME 2 inch	TER: I	DRILL DATE: 8/25/2020
Depth (feet) USCS Soil Des (feet) Symbol (color, texture, moisture, MAJOI	scription and Observations R CONSTITUENT, odor, staining	g, sheen, debris, etc.)	Drive/ Recovery	Sample ID
O GRAVEL and quarry spall (fi	II).			
0.00				
1 - 0 0 0				
$2 \longrightarrow \overset{\circ}{\bullet} \overset{\circ}{\circ} \overset{\circ}{\circ} \overset{\circ}{\circ}$				
0 · 0 · 0 · 0 · 0				
3 At 2.75 ft., grades to brown,	medium dense, silty <b>S</b>	AND; moist (fill).		
	ded angular <b>SAND</b> wi	th silt and fine to	-	
coarse angular gravel; moist				SB-100-4-4.5
5 Olive brown, medium dense,	SAND; moist (Upper	Sand Aquifer).		
		•		SB-100-5.5-6
6 Heaving sands at 6 ft., becor	mes gray.			
7 —				
- :::::::  :::SW::				
8 —				
10 —				
11 —				
Dark gray, soft <b>SILT</b> with sca	ittered wood fragment	s; moist.		
Boring terminated at 12 feet	bgs.			
	J			
13 —				
14 —				
15				
ABBREVIATIONS:		NOTES:		
ft bgs = feet below ground surface USCS = Unified ppm = parts per million = denotes	Soil Classification System groundwater table	Poor recovery was experion sampler.	enced with 1 inch	sampler; switched to 2 inch

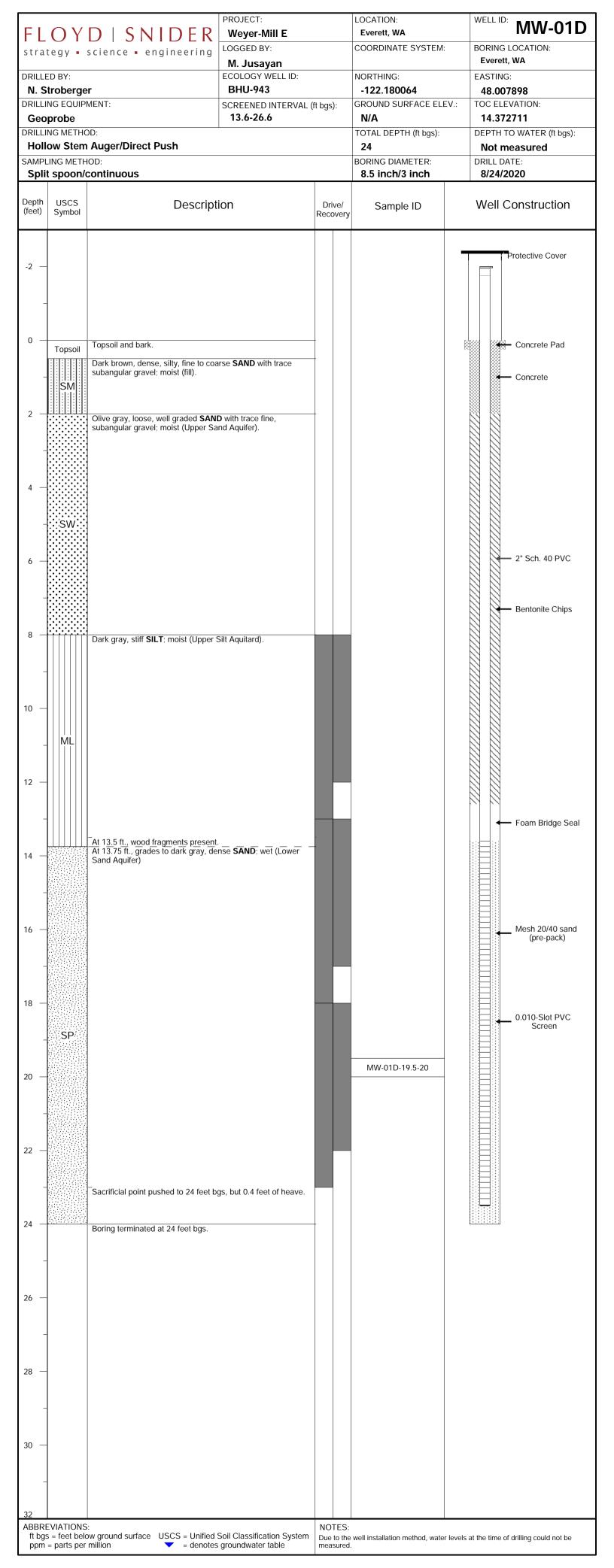
ELOV	DISNIDER	<b>PROJECT</b> : Weyer-Mill E	LOCATION: E	verett, WA	BORING ID: SB-101
	science • engineering	LOGGED BY:	BORING LOCAT	ION:	
strategy •	scrence • engineering	M. Jusayan	Everett, WA		
DRILLED BY:			NORTHING:		EASTING:
T. Tipton			-122.181747		48.006446
DRILLING EQUIP Geoprobe	MENT:		SURFACE ELEVATION:	12.24	COORDINATE SYSTEM: NAVD88
DRILLING METHO	OD:		TOTAL DEPTH (	ft bgs):	DEPTH TO WATER (ft bgs):
Direct Push			8.5		Not encountered
SAMPLING METH Continuous	HOD/SAMPLER LENGTH:		BORING DIAME 1 inch	TER:	<b>DRILL DATE:</b> 8/25/2020
Depth USCS (feet) Symbol	Soil Des (color, texture, moisture, <b>MAJOR</b>	scription and Observations R CONSTITUENT, odor, stainin	ng, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0 - SP	Grass ground surface; dark to trace silt; moist (fill).  Gray, medium dense, silty Sa		· ·		
3 —					SB-101-2-2.7
6 —					SB-101-5-6
7 —	Dark gray, medium stiff <b>SILT</b>	with scattered wood f	fragments; moist.		
	Boring terminated at 7.5 feet	bas.			
8 —	3	3			
9 —					
10 —					
11 —					
12 —					
13 —					
-					
14 —					
15					
ABBREVIATIONS	s: ow ground surface USCS = Unified !	Soil Classification System	NOTES:		
npm = parts per	million	aroundwater table			

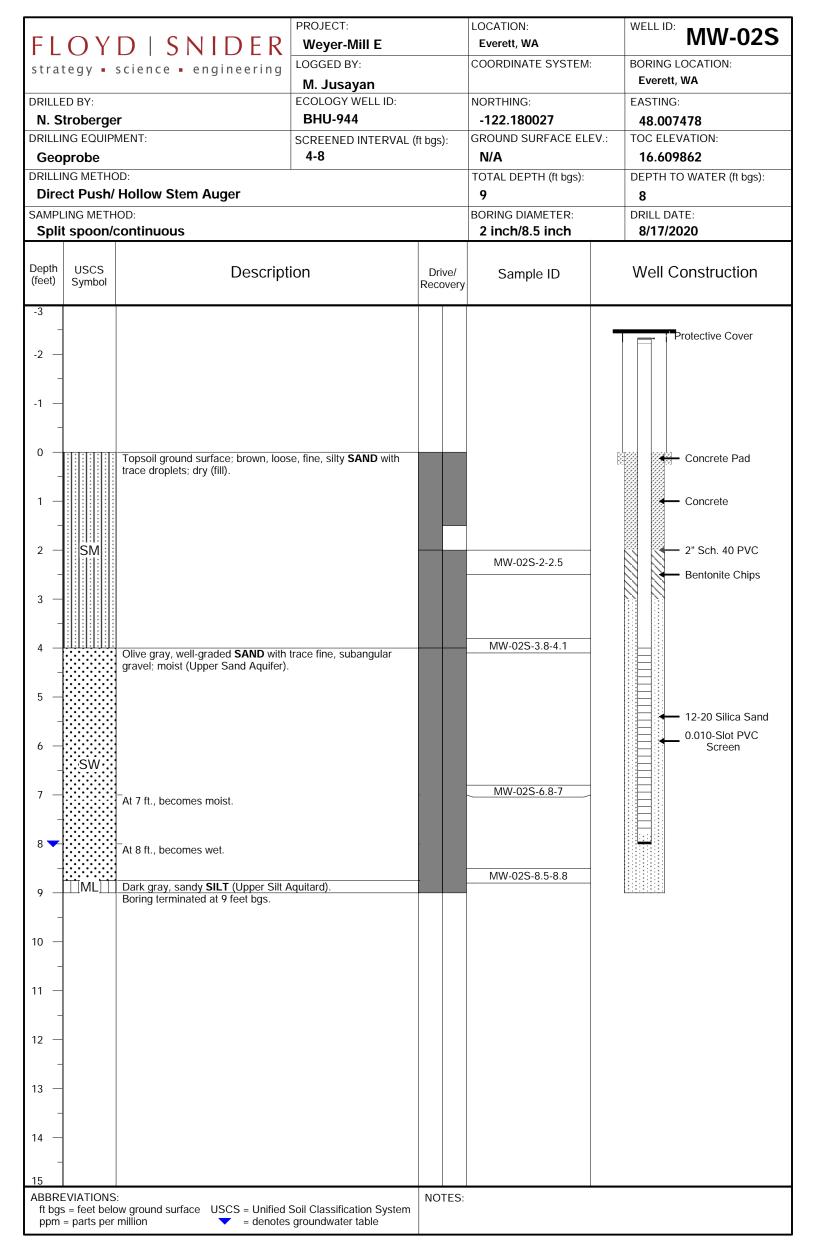
	DICNIDED	PROJECT:	LOCATION: E	verett, WA	BORING ID: SB-102
	DISNIDER	Weyer-Mill E			3D-102
strategy •	science • engineering	LOGGED BY: M. Jusayan	BORING LOCAT Everett, WA	ION:	
DRILLED BY:		IVI. Jusayan	NORTHING:		EASTING:
N. Stroberger			-122.181175		48.006325
DRILLING EQUIP			SURFACE		COORDINATE SYSTEM:
Geoprobe			ELEVATION:	12.53	NAVD88
DRILLING METHO	OD:		TOTAL DEPTH	(ft bgs):	DEPTH TO WATER (ft bgs):
Direct Push			9		Not encountered
Continuous	HOD/SAMPLER LENGTH:		BORING DIAME 1 inch	TER:	<b>DRILL DATE:</b> 8/25/2020
Depth USCS (feet) Symbol	Soil Des (color, texture, moisture, <b>MAJOI</b>	scription and Observations R CONSTITUENT, odor, staining	ng, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0	Grass ground surface; light b	rown, loose, silty <b>SAI</b>	ND with gravel; dry		
1 — SM:					
- 500	At 1 ft., gravel content decrea	ases; sand becomes s	silty and fine.		
2	Light brown, dense to very d	ense, <b>GRAVEL</b> with s	sand and silt; dry (fill).	-	
3					
GW					
4 - 0 • 0					SB-102-4-4.5
					3b-102-4-4.3
5 —	Gray, medium dense, fine <b>S</b>	AND with silt; moist.			
6 —					
					SB-102-6-6.5
7 — SP					
					SB-102-7.5-8
8 —					
9 ML	Dark gray, soft SILT with sca		ts; moist.		
_	Boring terminated at 9 feet b	gs.			
10 —					
11 —					
12 —					
13 —					
14					
14 —					
15					
ABBREVIATIONS	S: ow ground surface USCS = Unified S	Soil Classification System	NOTES:		
ppm = parts per	million	groundwater table			

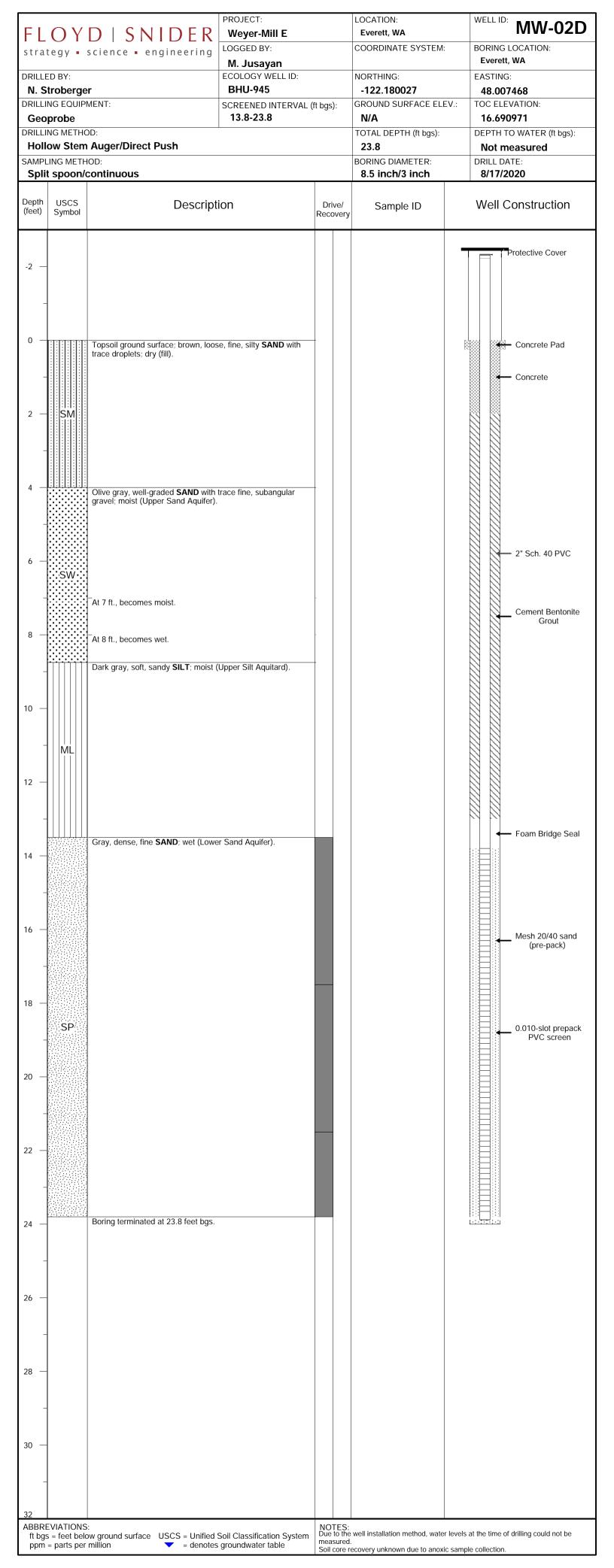
FLOV	DISNIDER	<b>PROJECT</b> : Weyer-Mill E	LOCATION: EV	erett, WA	BORING ID: SB-103
	science • engineering	LOGGED BY:	BORING LOCAT	ION:	
strategy -	scrence - engineering	M. Juysayan	Everett, WA		
DRILLED BY:			NORTHING:		EASTING:
N. Stroberger			-122.180654		48.00625
<b>DRILLING EQUIP</b> Geoprobe	MENT:		SURFACE ELEVATION:	12.88	COORDINATE SYSTEM: NAVD88
DRILLING METH	OD:		TOTAL DEPTH (	ft bgs):	DEPTH TO WATER (ft bgs):
Direct Push			10		9
Continuous	HOD/SAMPLER LENGTH:		BORING DIAME  1 inch	ΓER:	<b>DRILL DATE:</b> 8/25/2020
Depth USCS (feet) Symbol	Soil Des (color, texture, moisture, <b>MAJO</b> l	scription and Observations R CONSTITUENT, odor, staining	ng, sheen, debris, etc.)	Drive/ Recovery	Sample ID
1 — SM	1 3 3 3	•			
2 — GW	•				
3 —	Dark brown, dense, fine to m	edium, <b>SAND</b> ; moist	(Upper Sand Aquifer).		SB-103-2.7-3.2
4 —					
5 —	At 5 ft., becomes gray.				
6 — SP					SB-103-5.5-6
7					
					SB-103-7-7.5
8 —					
9 🔻	At 9 ft., becomes wet.				SB-103-9.2-9.7
10ML_	Dark gray, soft <b>SILT</b> ; moist. Boring terminated at 10 feet	bas.			
_	John Sterminates at 10 1001	~ <b>9</b> 0.			
11 —					
12 —					
13 —					
14 —					
 15					
ABBREVIATIONS ft bgs = feet bel ppm = parts per	ow ground surface USCS = Unified	Soil Classification System groundwater table	NOTES:		

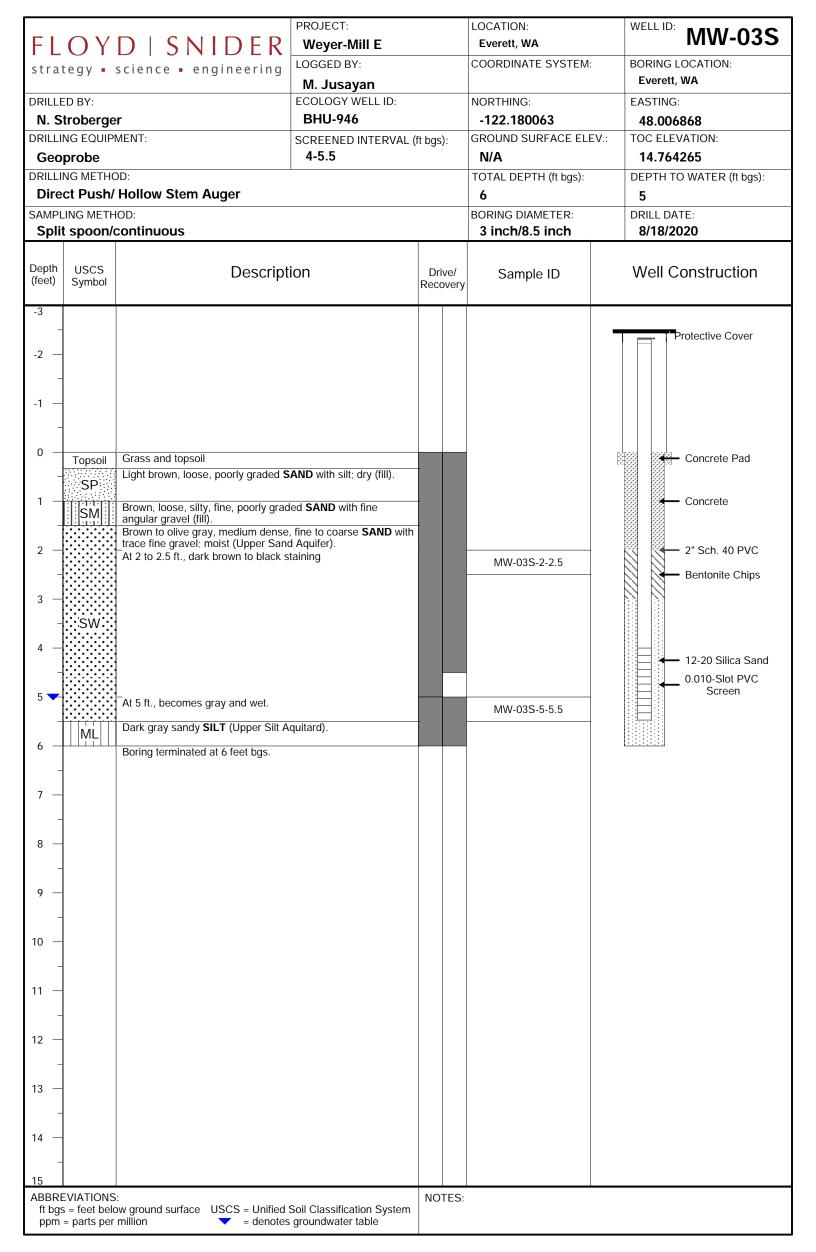
FL OV	DICNIDED	PROJECT: Weyer-Mill E	LOCATION: EV	verett, WA	BORING ID: SB-104
	DISNIDER	LOGGED BY:	DODING LOGAT	TON.	<b>3 1 1 1 1</b>
strategy •	science • engineering	M. Juysayan	BORING LOCAT Everett, WA	ION:	
DRILLED BY:		Wi. Saysayan	NORTHING:		EASTING:
N. Stroberger			-122.181176		48.005856
DRILLING EQUIP Geoprobe	MENT:		SURFACE ELEVATION:	12.25	COORDINATE SYSTEM: NAVD88
DRILLING METHO	OD:		TOTAL DEPTH (	ft bgs):	DEPTH TO WATER (ft bgs):
Direct Push			8		Not encountered
SAMPLING METH Continuous	HOD/SAMPLER LENGTH:		BORING DIAME 1 inch	TER:	<b>DRILL DATE</b> : 8/24/2020
Depth USCS (feet) Symbol	Soil Des (color, texture, moisture, <b>MAJOI</b>	scription and Observations R CONSTITUENT, odor, staining	ng, sheen, debris, etc.)	Drive/ Recovery	Sample ID
0 - SM 1 - SM	Grass ground surface; brown organics; dry (fill). Light gray, well graded GRA	j			
2 — GW 6	concrete).	VEE Will Sand and Si	t, dry (iiii, recycled		SB-104-1.5-2
3 —	At 2.75 ft., grades to gray, de	ense, <b>SAND</b> with silt; r	moist.	-	SB-104-3-3.5
4 —					
5 — SP					
6 —					
7 —	Dark gray, medium stiff <b>SILT</b>	with trace wood fragr	ments.		SB-104-6.5-7
8 -   ML   8 -	Boring terminated at 8 feet b	_			
9 —					
10 —					
11 —					
12 —					
13 —					
14 —					
ABBREVIATIONS		Call Observing 11 Control	NOTES:		
ft bgs = feet belonger from the ppm = parts per	ow ground surface USCS = Unified :  million	Soil Classification System groundwater table			

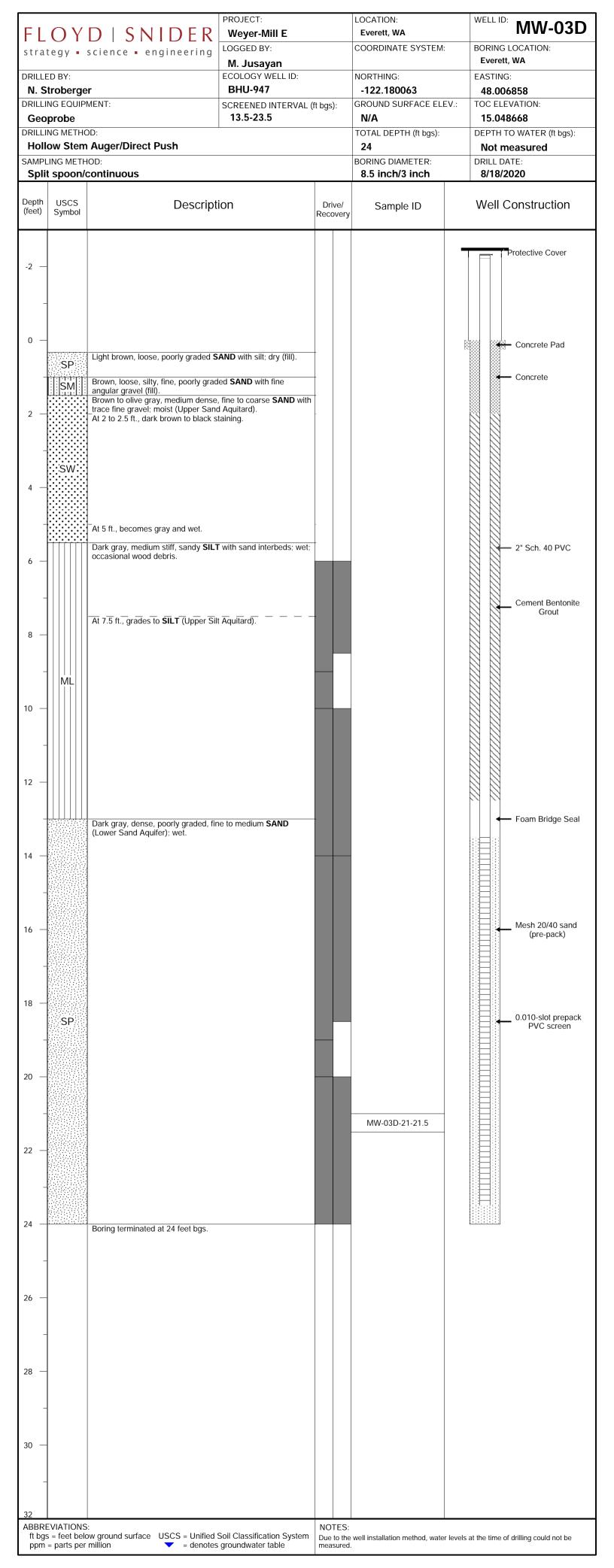


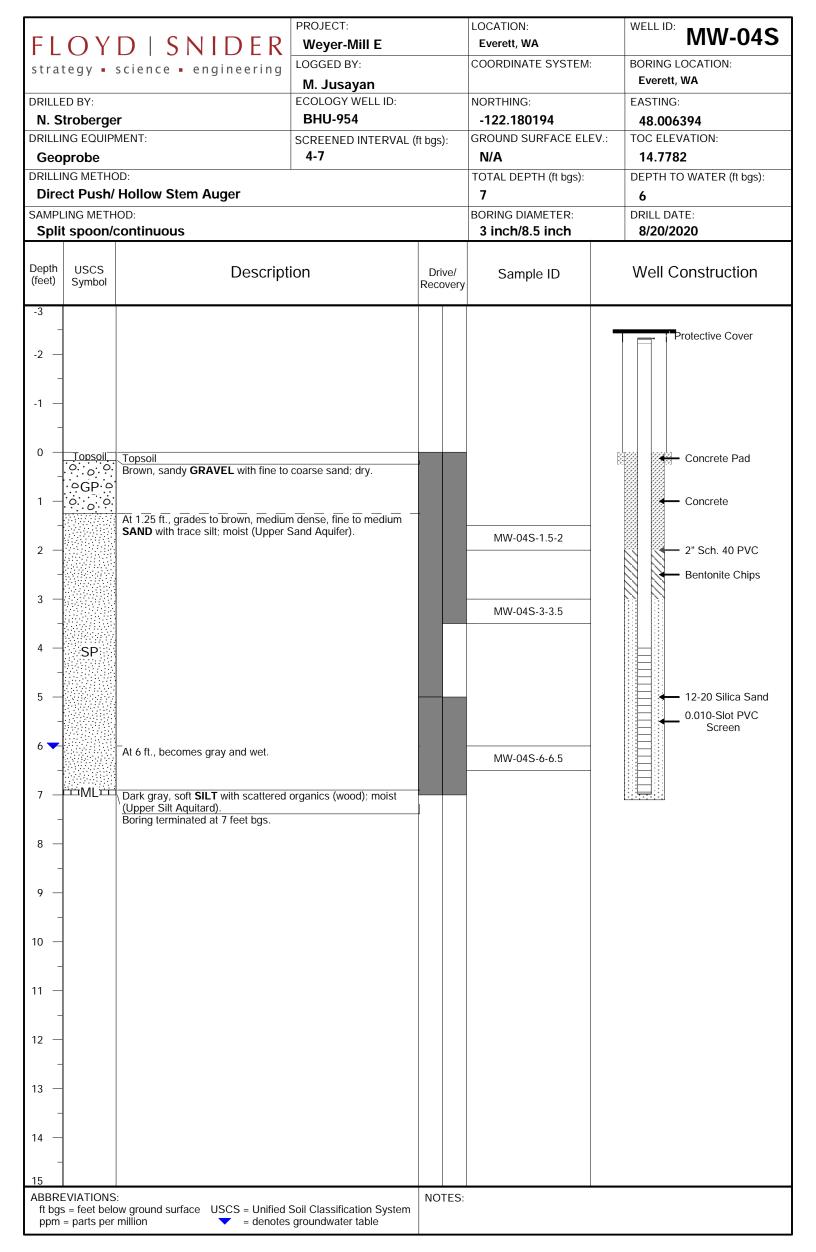


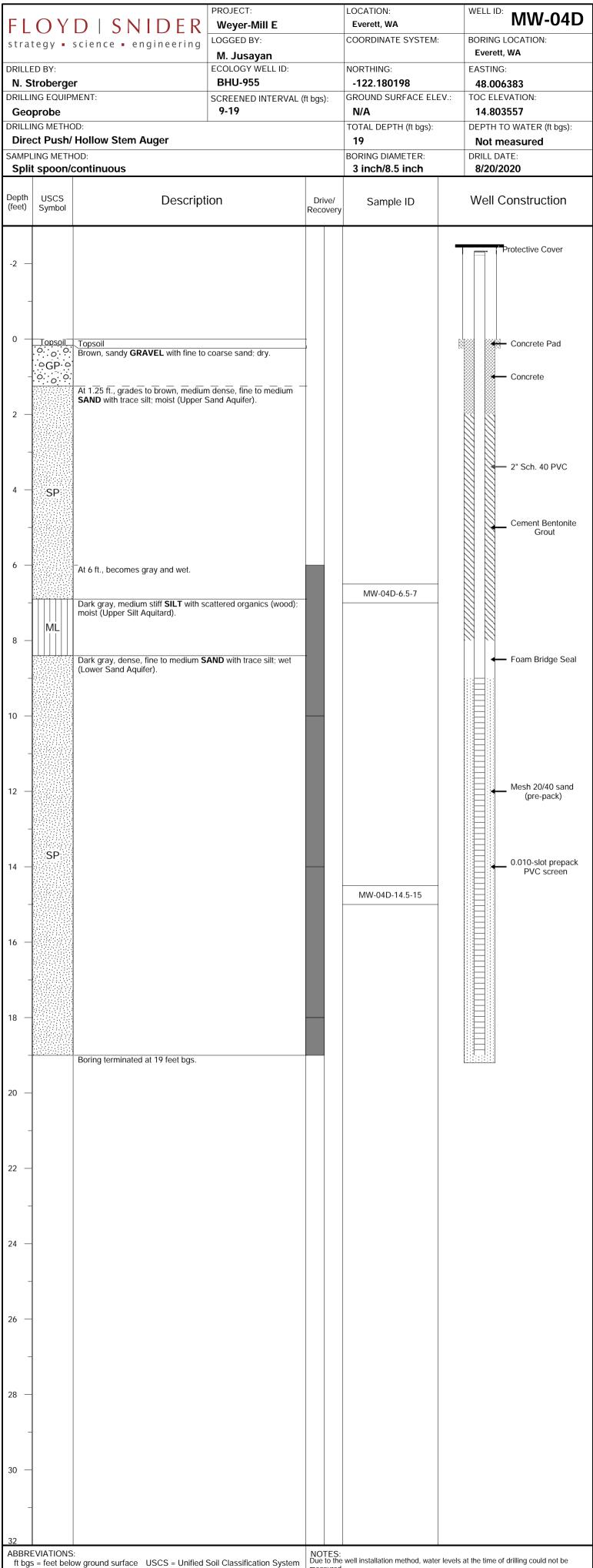




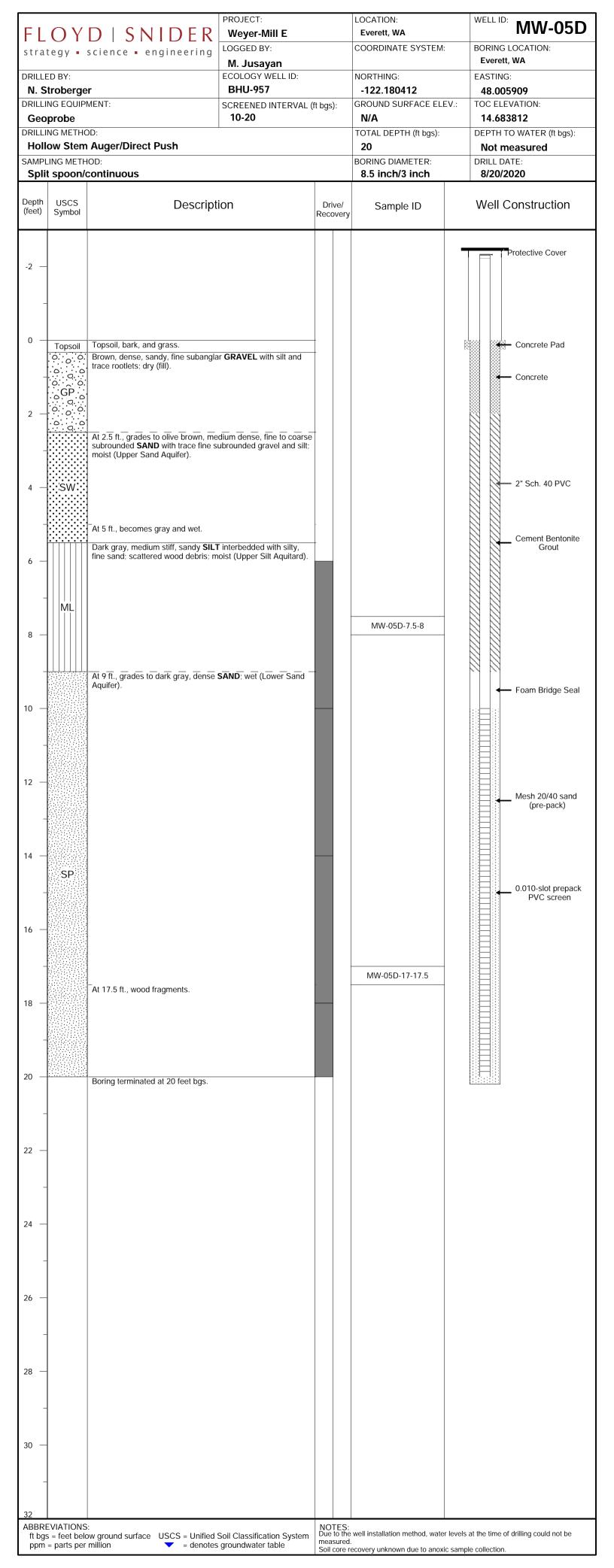




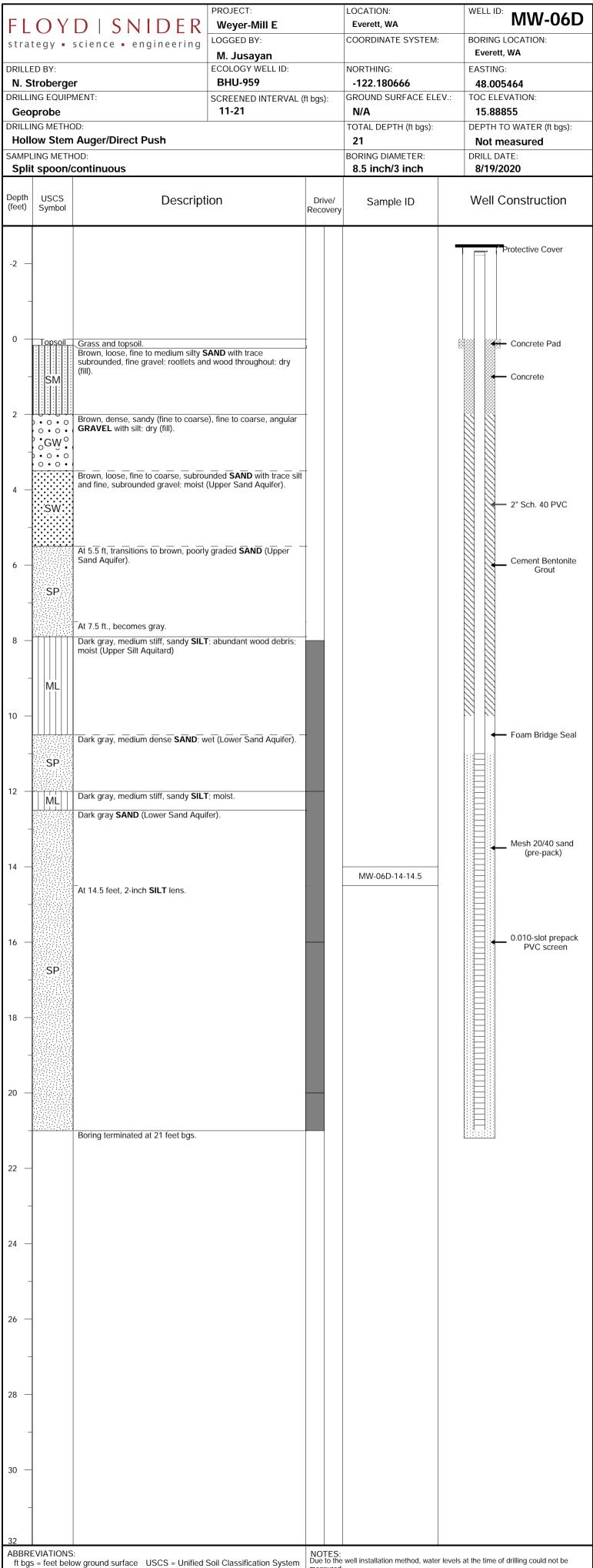




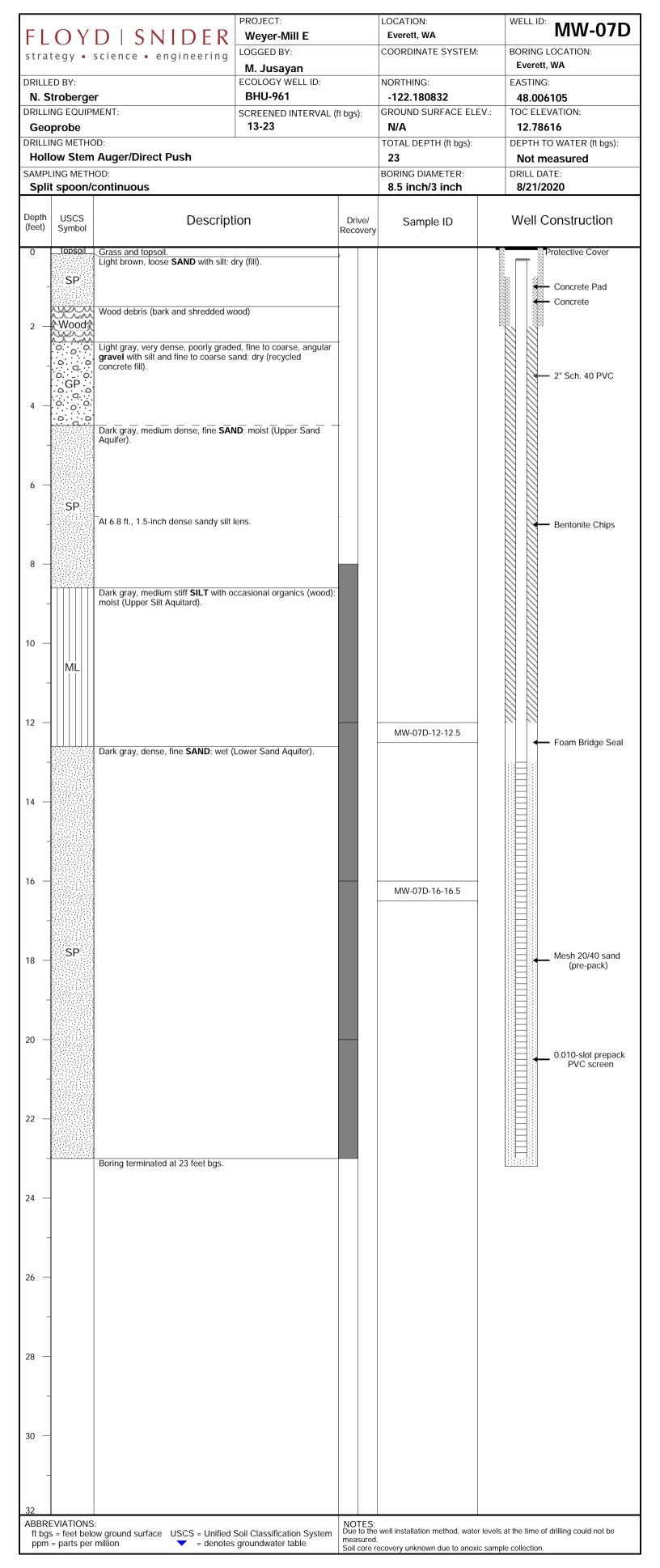
= L	OY	DISNIDER	PROJECT: Weyer-Mill E		LOCATION:  Everett, WA	WELL ID: MW-05S
trat	egy • :	science • engineering	LOGGED BY:  M. Jusayan		COORDINATE SYSTEM:	BORING LOCATION:  Everett, WA
	D BY:		ECOLOGY WELL ID:		NORTHING:	EASTING:
	troberge NG EQUIPN		BHU-956	/ft 1 \	-122.180408 GROUND SURFACE ELEV.:	<b>48.005921</b> TOC ELEVATION:
	probe	VILIVI.	SCREENED INTERVAL 4-5.5	(it bgs):	N/A	14.78295
RILLIN	NG METHO		<u>I</u>		TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):
	Ct Push/ ING METH	Hollow Stem Auger			<b>6</b> BORING DIAMETER:	DRILL DATE:
		continuous			3 inch/8.5 inch	8/20/2020
epth feet)	USCS Symbol	Descript	ion	Drive/ Recovery	Sample ID	Well Construction
.3 - .2 — - .1 —						Protective Cover
0 <del> </del>	Topsoil O. O	Topsoil, bark, and grass.  Brown, dense, sandy, fine subangla trace rootlets; dry (fill).	or <b>GRAVEL</b> with silt and	_		Concrete Pad  Concrete
3	0.0.0	At 2.5 ft., grades to olive brown, me subrounded <b>SAND</b> with trace fine st moist (Upper Sand Aquifer).	dium dense, fine to coarse ubrounded gravel and silt;	<del>)</del>		2" Sch. 40 PVC  Bentonite Chips
4 -	SW				MW-05S-3.5-4	12-20 Silica Sand
5 —		At 5 ft., becomes gray and wet.  Dark gray, medium stiff, sandy <b>SILT</b>	r: moist (Upper Silt		MW-05S-4.5-5	0.010-Slot PVC Screen
6 -	ML	Aquitard).  Boring terminated at 6 feet bgs.				
7 —						
8 —						
9 —						
o –						
1 -						
2 —						
3 —						
4 —						
5						

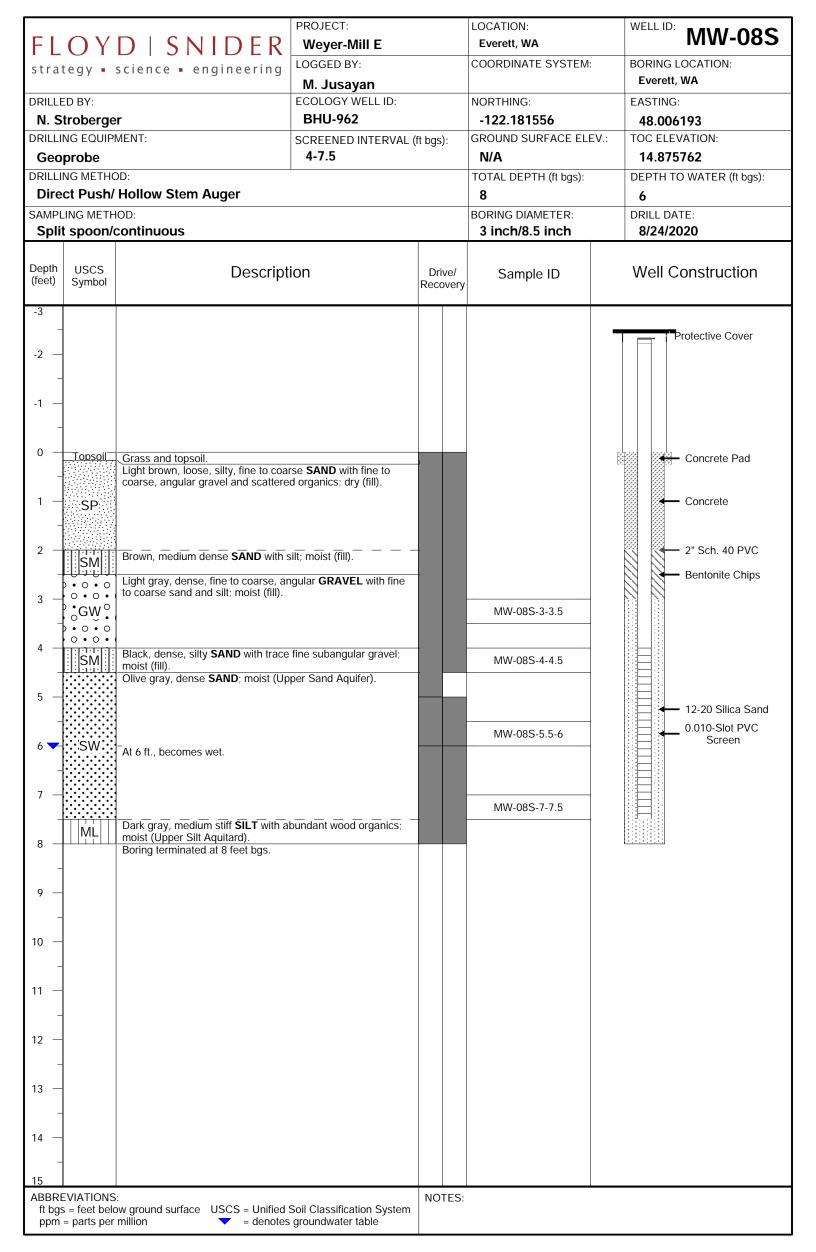


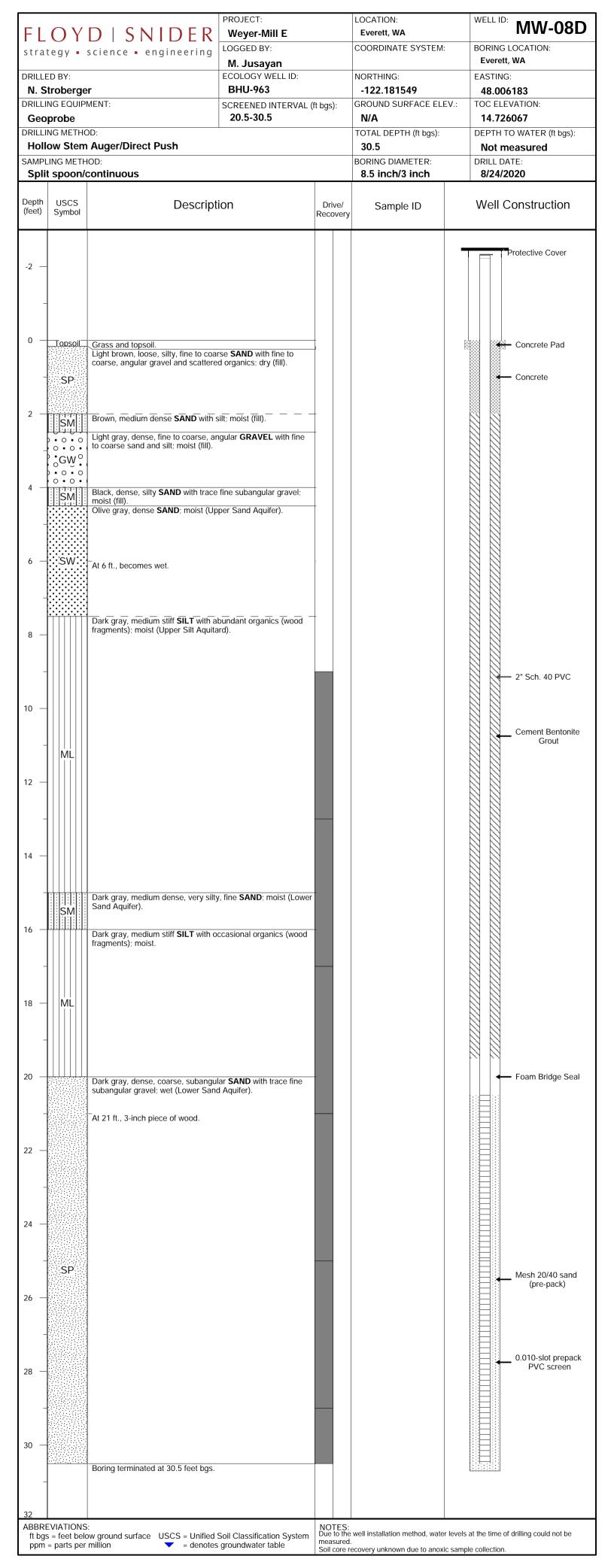
:	$\cap$ V	DISNIDER	PROJECT: Weyer-Mill E		LOCATION:  Everett, WA	WELL ID: MW-06S
		science • engineering	LOGGED BY:		COORDINATE SYSTEM:	BORING LOCATION:
	- 9 /	engineering	M. Jusayan			Everett, WA
RILLEI			ECOLOGY WELL ID:		NORTHING:	EASTING:
		BHU-958		-122.180656	48.005484	
DRILLING EQUIPMENT: SCREENED INTERVAL (I  Geoprobe 4-9				(ft bgs):	GROUND SURFACE ELEV.  N/A	: TOC ELEVATION: 15.830914
	IG METHO	)D·	<del></del> 7		TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):
		Hollow Stem Auger			9	Not encountered
AMPLI	NG METH	OD:			BORING DIAMETER:	DRILL DATE:
Split	spoon/o	continuous			3 inch/8.5 inch	8/19/2020
epth eet)	USCS Symbol	Descripti	on	Drive/ Recovery	Sample ID	Well Construction
3						Protective Cover
: -						
+						
4						
, 🕸						י ב ולאכני בנכקים
	Topsoil	Grass and topsoil.  Brown, loose, fine to medium silty S	AND with trace			Concrete Pad
		subrounded, fine gravel; rootlets and (fill).	d wood throughout; dry			
	SM					Concrete
-						
		Brown, dense, sandy (fine to coarse	), fine to coarse, angular			2" Sch. 40 PVC
-	0 • 0 •	<b>GRAVEL</b> with silt; dry (fill).				Bentonite Chips
-	GW°.				N	
1	0 • 0 • (	Brown, loose, fine to coarse, subrou	nded SAND with trace silt		MW-06S-3-3.5	
		and fine, subrounded gravel; moist (	Upper Sand Aquifer).			
	SW				•	
5 📑						
					MW-06S-5-5.5	
T		At 5.5 ft, transitions to brown, poorly Sand Aquifer).	graded SAND (Upper			12 20 6 11 - 2 6 1
, –						12-20 Silica Sand 0.010-Slot PVC
7						Screen
' <del> </del>	SP				MW-06S-7-7.7	
		At 7.5 ft., becomes gray.				
3 —		-At 8-8.5 ft., wood debris.				
-					MW-06S-8.5-8.9	
, 📙	шМLш	( Bark gray, mealant sim CiET, week	debris present; moist		19199-003-0.3-0.9	
4		(Upper Silt Aquitard). Boring terminated at 9 feet bgs.		4		
,		J				
1						
2 -						
+						
3 —						
4						
4 —						
5						
יחחרי	VIATIONS	•		NOTES		

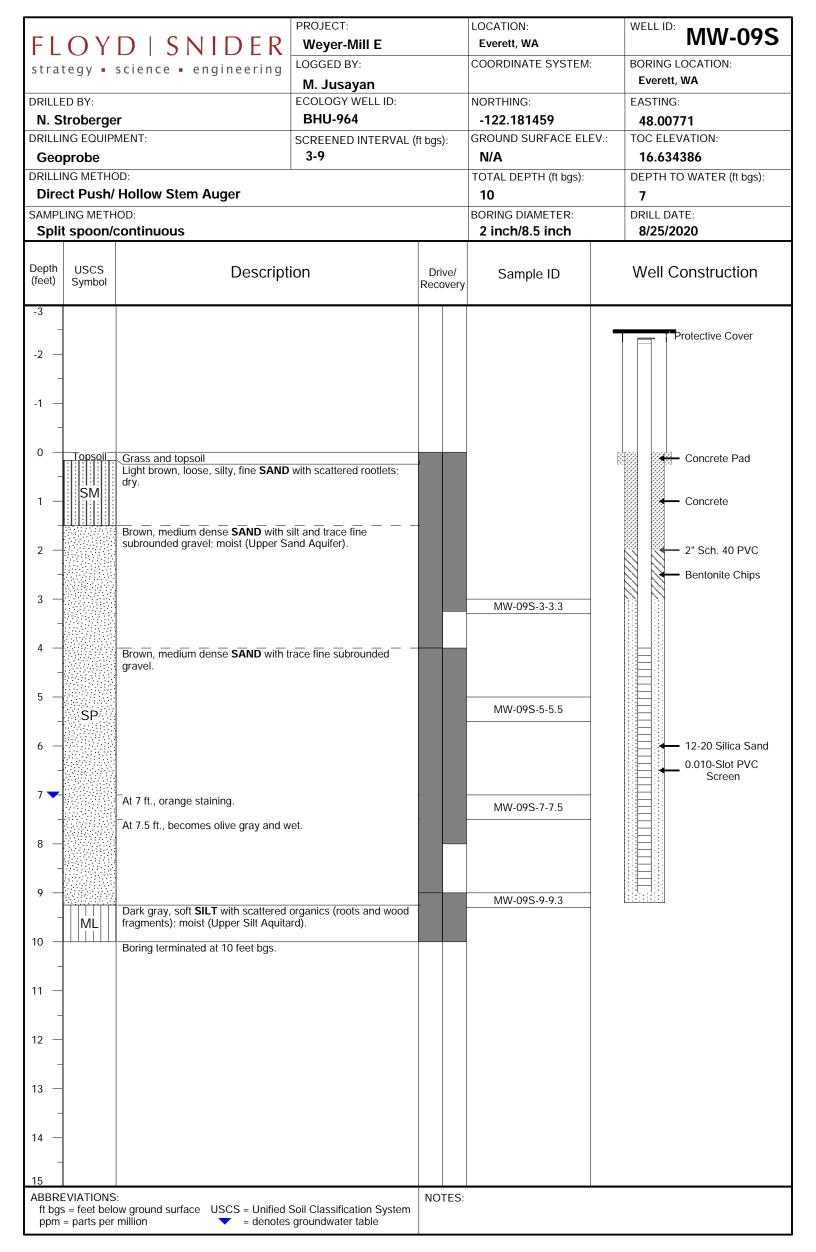


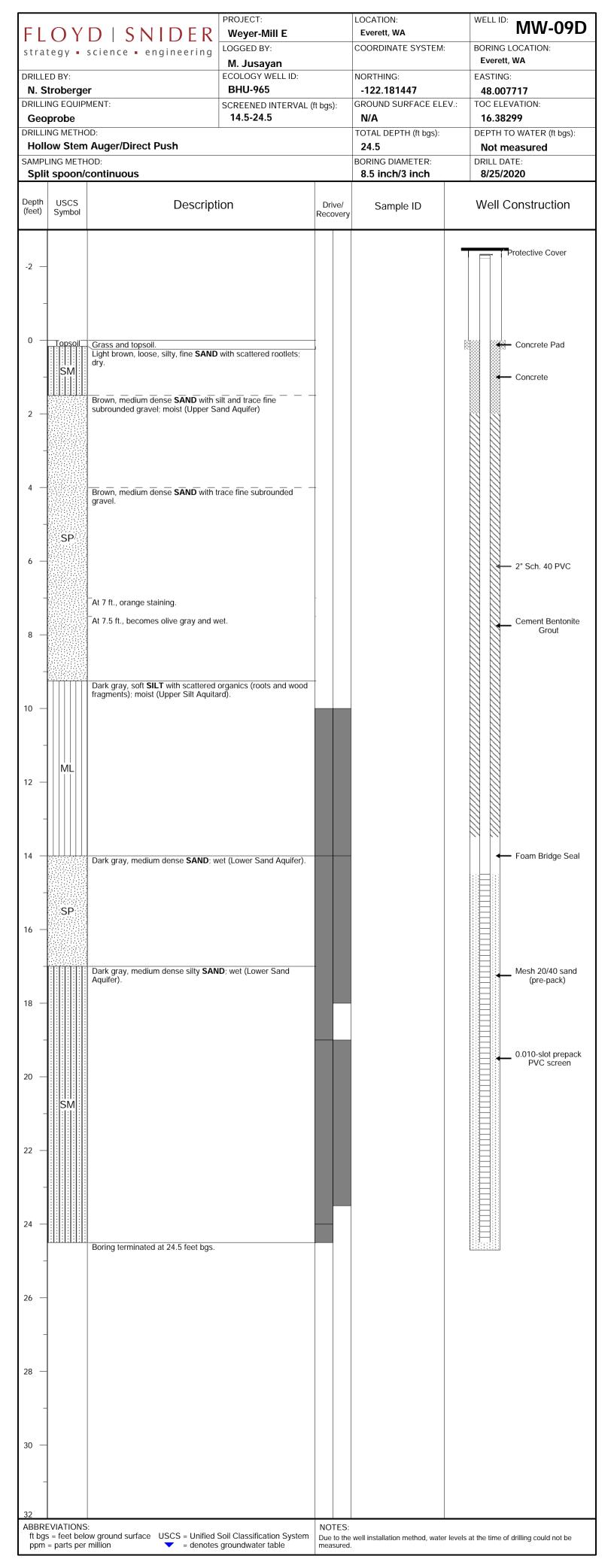
	O 1/	D   0   1   5   5   5   5   5   5   5   5   5	PROJECT:		LOCATION:	WELL ID: MW-07S
۲L	OY	DISNIDER	Weyer-Mill E		Everett, WA	
strat	tegy •	science • engineering	LOGGED BY:  M. Jusayan		COORDINATE SYSTEM:	BORING LOCATION:  Everett, WA
DRILLE	D BY:		ECOLOGY WELL ID:		NORTHING:	EASTING:
N. St	troberge	r	BHU-960		-122.180832	48.006116
ORILLIN	NG EQUIPI	MENT:	SCREENED INTERVAL (	(ft bgs):	GROUND SURFACE ELEV.:	TOC ELEVATION:
Geo	probe		4-8		N/A	12.61754
DRILLIN	NG METHO	DD:			TOTAL DEPTH (ft bgs):	DEPTH TO WATER (ft bgs):
Direc	ct Push/	Hollow Stem Auger			9	Not encountered
SAMPL	ING METH	OD:			BORING DIAMETER:	DRILL DATE:
Split	spoon/d	continuous			3 inch/8.5 inch	8/20/2020
						•
Depth (feet)	USCS Symbol	Descripti	on	Drive/ Recovery	Sample ID	Well Construction
0	Iopsoil	Grass and topsoil.			•	Protective Cover
-		Light brown, loose SAND with silt; d	ry (fill).			
1 —	SP					Concrete Pad
.						Concrete
1		Wood debris (bark and shredded wo	ood)			
2 —	.̂Woodγ					A
ľ		Light gray, very dense, poorly grade	d. fine to coarse, angular			2" Sch. 40 PVC Bentonite Chips
		gravel with silt and fine to coarse sa	ind; dry (recycled			
3 –		concrete fill).				
$\dashv$	GP ∴					
4						
.						
1		Dark gray, medium dense, fine SAN	<b>D</b> ; moist (Upper Sand		MW-07S-4.5-5	
5		Aquifer).				
						10.00.00
0	SP					12-20 Silica Sand
-	<b>.</b>				MM 075 4 5 7	0.010-Slot PVC Screen
7		At 6.8 ft., 1.5-inch dense sandy silt l	ens.		MW-07S-6.5-7	
ŀ						
7					MW-07S-7.5-8	
8 —		Dark gray, medium stiff SILT with tra	ace fine sand and		<u> </u>	
-		occasional wood; moist (Upper Silt A	Aquitard).			
9						
,		Boring terminated at 9 feet bgs.				12:12:12:12:13
-						
0 —						
_						
1 -						
-						
2 —						
3 —						
_						
14 —						
-						
15						
	EVIATIONS s = feet belo	: ow ground surface USCS = Unified S	Soil Classification System	NOTES:		
ppm :	= parts per		groundwater table			

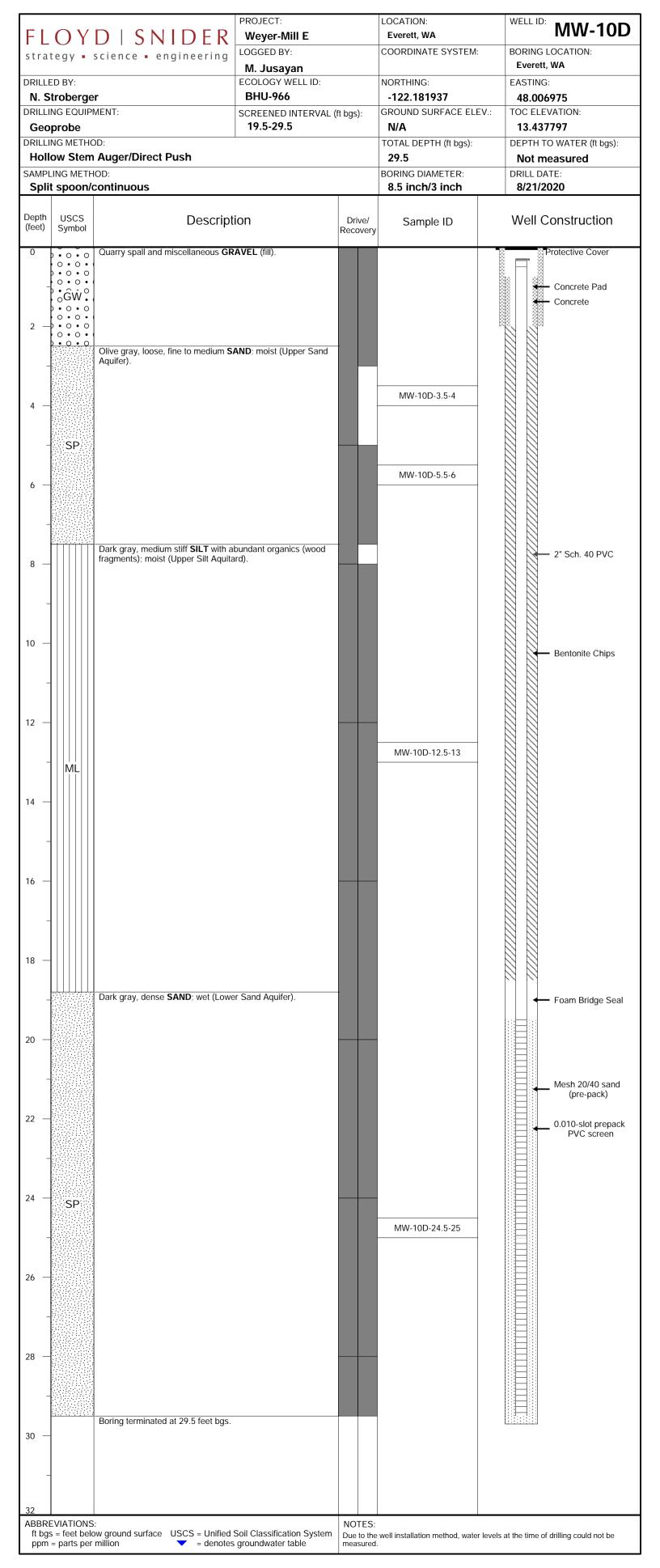












## Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report

Appendix B Laboratory Reports



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: Milli E

Work Order Number: 2008301

October 09, 2020

### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 11 sample(s) on 8/21/2020 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Sulfide by SM4500-S2-F (MOD)
Total Metals by EPA Method 6020B
Total Organic Carbon by EPA 9060

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 10/09/2020



CLIENT: Floyd | Snider Work Order Sample Summary

Project: Mill E
Work Order: 2008301

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2008301-001	MW-03D-21-21.5	08/18/2020 10:55 AM	08/21/2020 3:43 PM
2008301-002	MW-01D-19.5-20	08/19/2020 8:05 AM	08/21/2020 3:43 PM
2008301-003	MW-06D-14-14.5	08/19/2020 2:35 PM	08/21/2020 3:43 PM
2008301-004	MW-05D-7.5-8	08/20/2020 9:50 AM	08/21/2020 3:43 PM
2008301-005	MW-05D-17-17.5	08/20/2020 9:55 AM	08/21/2020 3:43 PM
2008301-006	MW-04D-6.5-7	08/20/2020 1:50 PM	08/21/2020 3:43 PM
2008301-007	MW-04D-14.5-15	08/20/2020 2:15 PM	08/21/2020 3:43 PM
2008301-008	MW-07D-12-12.5	08/20/2020 8:25 AM	08/21/2020 3:43 PM
2008301-009	MW-07D-16-16.5	08/21/2020 8:40 AM	08/21/2020 3:43 PM
2008301-010	MW-10D-12.5-13	08/21/2020 11:35 AM	08/21/2020 3:43 PM
2008301-011	MW-10D-24.5-25	08/21/2020 11:40 AM	08/21/2020 3:43 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



### Case Narrative

WO#: **2008301**Date: **10/9/2020** 

CLIENT: Floyd | Snider

Project: Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



### **Qualifiers & Acronyms**

WO#: **2008301** 

Date Reported: 10/9/2020

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2008301**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/18/2020 10:55:00 AM

Project: Mill E

**Lab ID:** 2008301-001 **Matrix:** Soil

Client Sample ID: MW-03D-21-21.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 29	911 Analyst: CO
Arsenic	6.58	0.218		mg/Kg-dry	1	10/6/2020 7:05:42 PM
Iron	15,600	48.0	D	mg/Kg-dry	10	10/7/2020 1:26:33 PM
Manganese	277	4.36	D	mg/Kg-dry	10	10/7/2020 1:26:33 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	n ID: R6	S2372 Analyst: RL
Percent Moisture	17.6	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	ND	0.0750	Н	%-dry	1	10/8/2020 12:26:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	S2412 Analyst: SS
Sulfide	ND	0.607	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008301**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/19/2020 2:35:00 PM

Project: Mill E

**Lab ID:** 2008301-003 **Matrix:** Soil

Client Sample ID: MW-06D-14-14.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B	<u>3</u>			Batch	n ID: 29	911 Analyst: CO
Arsenic	16.2	0.269		mg/Kg-dry	1	10/6/2020 7:11:16 PM
Iron	20,000	118	D	mg/Kg-dry	20	10/7/2020 1:32:06 PM
Manganese	264	10.8	D	mg/Kg-dry	20	10/7/2020 1:32:06 PM
Sample Moisture (Percent Moistur	<u>e)</u>			Batch	ı ID: Re	S2372 Analyst: RL
Percent Moisture	23.3	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 9060	<u>)</u>			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	0.173	0.0750	Н	%-dry	1	10/8/2020 12:37:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	S2412 Analyst: SS
Sulfide	ND	0.652	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008301**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 9:50:00 AM

Project: Mill E

**Lab ID:** 2008301-004 **Matrix:** Soil

Client Sample ID: MW-05D-7.5-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batch	n ID: 29	911 Analyst: CO
Arsenic	15.1	0.246		mg/Kg-dry	1	10/6/2020 7:16:50 PM
Iron	19,500	108	D	mg/Kg-dry	20	10/7/2020 1:37:40 PM
Manganese	235	9.86	D	mg/Kg-dry	20	10/7/2020 1:37:40 PM
Sample Moisture (Percent Moisture	)			Batch	ı ID: Re	62372 Analyst: RL
Percent Moisture	29.1	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 9060				Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	0.999	0.0750	Н	%-dry	1	10/8/2020 12:52:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: Re	S2412 Analyst: SS
Sulfide	ND	0.705	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008301**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 9:55:00 AM

Project: Mill E

**Lab ID:** 2008301-005 **Matrix:** Soil

Client Sample ID: MW-05D-17-17.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020	<u>B</u>			Batch	n ID: 29	911 Analyst: CO
Arsenic	15.1	0.217		mg/Kg-dry	1	10/6/2020 7:22:24 PM
Iron	15,700	95.5	D	mg/Kg-dry	20	10/7/2020 1:43:13 PM
Manganese	229	8.68	D	mg/Kg-dry	20	10/7/2020 1:43:13 PM
Sample Moisture (Percent Moistur	re)			Batch	ı ID: R6	2372 Analyst: RL
Percent Moisture	15.9	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 906	<u>0</u>			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	0.306	0.0750	Н	%-dry	1	10/8/2020 1:06:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	32412 Analyst: SS
Sulfide	ND	0.595	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008301**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 1:50:00 PM

Project: Mill E

**Lab ID:** 2008301-006 **Matrix:** Soil

Client Sample ID: MW-04D-6.5-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 29	911 Analyst: CO
Arsenic	23.0	0.248		mg/Kg-dry	1	10/6/2020 7:27:58 PM
Iron	20,200	109	D	mg/Kg-dry	20	10/7/2020 1:48:47 PM
Manganese	265	9.92	D	mg/Kg-dry	20	10/7/2020 1:48:47 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	ı ID: R6	2372 Analyst: RL
Percent Moisture	29.0	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	1.36	0.0750	Н	%-dry	1	10/8/2020 1:21:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	32412 Analyst: SS
Sulfide	ND	0.704	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008301**Date Reported: **10/9/2020** 

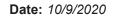
Client: Floyd | Snider Collection Date: 8/20/2020 2:15:00 PM

Project: Mill E

**Lab ID:** 2008301-007 **Matrix:** Soil

Client Sample ID: MW-04D-14.5-15

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B	<u>3</u>			Batch	n ID: 29	911 Analyst: CO
Arsenic	9.07	0.223		mg/Kg-dry	1	10/6/2020 7:33:32 PM
Iron	16,800	49.1	D	mg/Kg-dry	10	10/7/2020 1:54:20 PM
Manganese	241	4.46	D	mg/Kg-dry	10	10/7/2020 1:54:20 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	n ID: Re	62372 Analyst: RL
Percent Moisture	15.8	0.500		wt%	1	10/6/2020 3:29:08 PM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	0.215	0.0750	Н	%-dry	1	10/8/2020 3:08:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	n ID: Re	S2412 Analyst: SS
Sulfide	ND	0.594	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM





**QC SUMMARY REPORT** 

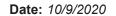
**CLIENT:** Floyd | Snider

Project:	Milli E	•							Sulfid	le by SM4	500-S2-F	(MOD
Sample ID:	MB-R62412	SampType: MI	BLK		Units: mg/Kg		Prep Date	: 10/7/202	20	RunNo: 62	412	
Client ID:	MBLKS	Batch ID: R	62412				Analysis Date	10/7/202	20	SeqNo: 12	52238	
Analyte		Resu	ult RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		N	D 0.500									
Sample ID:	LCS-R62412	SampType: LC	cs		Units: mg/Kg		Prep Date	: 10/7/202	20	RunNo: 62	412	
Client ID:	LCSS	Batch ID: R	62412				Analysis Date	10/7/202	20	SeqNo: <b>12</b>	52239	
Analyte		Resu	ult RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		1.8	0.500	2.000	0	90.0	65	135				
Sample ID:	2008301-001ADUP	SampType: <b>D</b> l	JP		Units: mg/Kg-	dry	Prep Date	: 10/7/202	20	RunNo: 624	412	
Client ID:	MW-03D-21-21.5	Batch ID: R	62412				Analysis Date	10/7/202	20	SeqNo: <b>12</b>	52241	
Analyte		Resu	ult RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		N	D 0.607						0		30	Н
Sample ID:	2008301-001AMS	SampType: M	S		Units: mg/Kg-	dry	Prep Date	10/7/202	20	RunNo: 624	412	
Client ID:	MW-03D-21-21.5	Batch ID: R	62412				Analysis Date	10/7/202	20	SeqNo: <b>12</b>	52242	
Analyte		Resu	ult RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		1.8	32 0.607	2.427	0	75.0	65	135				Н
Sample ID:	2008301-001AMSD	SampType: M:	SD		Units: mg/Kg-	dry	Prep Date	: 10/7/202	20	RunNo: 62	412	
Client ID:	MW-03D-21-21.5	Batch ID: R	62412				Analysis Date	10/7/202	20	SeqNo: <b>12</b>	52243	
Analyte		Resu	ult RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		N	D 0.607	2.427	0	20.0	65	135	1.820	116	30	RSH

NOTES:

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SR - Outlying spike recovery(ies) and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.





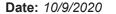
**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by EPA 9060** 

Project: Milli E						1	Total Orga	anic Carbon by	EPA 9060
Sample ID: <b>MB-29944</b>	SampType: MBLK			Units: %-dry		Prep Date: 10/8/2020		RunNo: <b>62442</b>	
Client ID: MBLKS	Batch ID: 29944				,	Analysis Date: 10/8/2020		SeqNo: <b>1252974</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RI	PD Ref Val	%RPD RPDL	imit Qual
Total Organic Carbon	ND	0.0750							
Sample ID: LCS-29944	SampType: LCS			Units: %-dry		Prep Date: 10/8/2020		RunNo: <b>62442</b>	
Client ID: LCSS	Batch ID: 29944				,	Analysis Date: 10/8/2020		SeqNo: <b>1252975</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit R	PD Ref Val	%RPD RPDL	imit Qual
Total Organic Carbon	1.00	0.0750	1.000	0	100	80 120			
Sample ID: <b>2008301-007ADUP</b>	SampType: <b>DUP</b>			Units: %-dry		Prep Date: 10/8/2020		RunNo: <b>62442</b>	
Client ID: MW-04D-14.5-15	Batch ID: 29944				,	Analysis Date: 10/8/2020		SeqNo: <b>1252984</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RI	PD Ref Val	%RPD RPDL	imit Qual
Total Organic Carbon NOTES:	0.349	0.0750					0.2150	47.5	20 RH
R - High RPD due to suspected	sample inhomogeneity. The	ne method is	in control as	indicated by the Lab	oratory Cor	ntrol Sample (LCS).			
Sample ID: 2008301-007AMS	SampType: MS			Units: %-dry		Prep Date: 10/8/2020		RunNo: <b>62442</b>	
Client ID: MW-04D-14.5-15	Batch ID: 29944				,	Analysis Date: 10/8/2020		SeqNo: <b>1252985</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit R	PD Ref Val	%RPD RPDL	imit Qual
Total Organic Carbon	1.22	0.0750	1.000	0.2150	100	75 125			Н
Sample ID: 2008301-007AMSD	SampType: <b>MSD</b>			Units: %-dry		Prep Date: 10/8/2020		RunNo: <b>62442</b>	
Client ID: MW-04D-14.5-15	Batch ID: 29944				,	Analysis Date: 10/8/2020		SeqNo: <b>1252986</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RI	PD Ref Val	%RPD RPDL	imit Qual
Total Organic Carbon	1.20	0.0750	1.000	0.2150	98.9	75 125	1.215	0.909	20 H

Original Page 12 of 20





### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Mill E

**Total Metals by EPA Method 6020B** 

Sample ID: LCS-29911	SampType: LCS	SampType: LCS			Units: mg/Kg Prep Date: 10/6/2020			20	RunNo: <b>62367</b>		
Client ID: LCSS	Batch ID: 29911					Analysis Da	te: 10/6/20	20	SeqNo: <b>125</b>	1397	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.4	0.182	36.50	0	108	80	120				
Iron	389	4.01	365.0	0	107	80	120				
Manganese	37.8	0.365	36.50	0	104	80	120				

Sample ID: 2010046-001AMS	SampType: MS		Units: mg/Kg-dr	у	Prep Dat	te: <b>10/6/202</b>	20	RunNo: <b>623</b>	67	
Client ID: BATCH	Batch ID: 29911				Analysis Dat	te: 10/6/202	20	SeqNo: <b>125</b>	1400	
Analyte	Result	RL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	16,800 4.	41 400.8	17,730	-223	75	125				ES

#### NOTES:

**Project:** 

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2010046-001AMSD	SampType: MSD			Units: mg/Kg-dry Prep Date: 10/6/2020						RunNo: <b>62367</b>		
Client ID: BATCH	Batch ID: 29911					Analysis Da	te: 10/6/20	20	SeqNo: 125	1401		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	14,600	4.41	400.8	17,730	-793	75	125	16,840	14.5	20	ES	

#### NOTES:

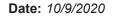
ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2010046-001APDS	SampType: PDS			Units: mg	/Kg-dry	Prep Dat	te: 10/6/202	20	RunNo: 623	67	
Client ID: BATCH	Batch ID: 29911					Analysis Da	te: 10/6/202	20	SeqNo: <b>125</b>	1402	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18,400	4.44	404	17,700	177	75	125				ES

#### NOTES:

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Original Page 13 of 20





Project:

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Mill E

### **Total Metals by EPA Method 6020B**

Sample ID: <b>MB-29911</b>	SampType: MBLK			Units: mg/Kg		Prep Da	te: <b>10/6/20</b>	20	RunNo: 623	67	
Client ID: MBLKS	Batch ID: 29911					Analysis Da	te: <b>10/7/20</b>	20	SeqNo: 125	2028	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.188									
Iron	ND	4.14									
Manganese	ND	0.376									

Sample ID: LCS-29911	SampType: LCS			Units: mg/Kg		Prep Dat	te: <b>10/6/20</b>	20	RunNo: 623	67	
Client ID: LCSS	Batch ID: 29911					Analysis Dat	te: <b>10/7/20</b>	20	SeqNo: <b>125</b>	2029	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	37.7	0.182	36.50	0	103	80	120				
Manganese	41.3	0.365	36.50	0	113	80	120				

Sample ID: 2010046-001AMS	SampType: <b>MS</b>			Units: mg	/Kg-dry	Prep Da	te: 10/6/20	20	RunNo: 623	867	
Client ID: BATCH	Batch ID: 29911					Analysis Da	te: <b>10/7/20</b>	20	SeqNo: <b>125</b>	2032	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.1	0.200	40.08	10.31	91.7	75	125				
Manganese	361	0.401	40.08	347.3	35.3	75	125				ES

#### NOTES:

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2010046-001AMSD	SampType: MSD			Units: mg/	Kg-dry	Prep Dat	te: <b>10/6/20</b>	20	RunNo: 623	67	
Client ID: BATCH	Batch ID: 29911					Analysis Da	te: <b>10/7/20</b>	20	SeqNo: <b>125</b>	2033	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.8	0.200	40.08	10.31	93.5	75	125	47.05	1.55	20	
Manganese	320	0.401	40.08	347.3	-68.7	75	125	361.5	12.2	20	ES

NOTES:

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Original Page 14 of 20

Date: 10/9/2020



Work Order: 2008301

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Mill E

**Total Metals by EPA Method 6020B** 

Sample ID: 2010046-001APDS	SampType: PDS			Units: mg/	Kg-dry	Prep Da	te: <b>10/6/20</b>	20	RunNo: 623	367	
Client ID: BATCH	Batch ID: 29911					Analysis Da	te: <b>10/7/20</b>	20	SeqNo: 125	52036	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	392	0.404	40.4	347	110	75	125				Е

NOTES:

Project:

Original Page 15 of 20

E - Estimated value. The amount exceeds the linear working range of the instrument.



## Sample Log-In Check List

Client Name: FS		Work Ord	er Number: 200830	01	
Logged by: Cariss	a True	Date Rec	eived: 8/21/20	020 3:43:00 PM	
Chain of Custody					
1. Is Chain of Custody	complete?	Yes [	<b>√</b> No □	Not Present	
2. How was the sample	delivered?	Client			
<u>Log In</u>					
3. Coolers are present?		Yes [	✓ No □	NA 🗆	
0.					
4. Shipping container/co	poler in good condition?	Yes	<b>✓</b> No □		
	nt on shipping container/cooler? for Custody Seals not intact)	Yes [	<b>✓</b> No □	Not Present	
6. Was an attempt mad	e to cool the samples?	Yes [	<b>✓</b> No □	NA 🗌	
7 Were all items receiv	red at a temperature of >2°C to 6°C *	Yes [	✓ No □	NA 🗆	
	·				
8. Sample(s) in proper	container(s)?	Yes [	<b>✓</b> No □		
9. Sufficient sample vol	ume for indicated test(s)?	Yes [	<b>✓</b> No □		
10. Are samples properly	preserved?	Yes [	<b>✓</b> No □		
11. Was preservative ad	ded to bottles?	Yes [	No ✓	NA 🗆	
12. Is there headspace in	n the VOA vials?	Yes [	□ No □	NA 🗹	
13. Did all samples conta	ainers arrive in good condition(unbroken)?	Yes [	✓ No □		
14. Does paperwork mat	ch bottle labels?	Yes [	<b>√</b> No □		
15. Are matrices correctl	y identified on Chain of Custody?	Yes [	✓ No □		
16. Is it clear what analy		Yes [	✓ No □		
17. Were all holding time	es able to be met?	Yes [	No ✓		
Special Handling (if	applicable)				
-	all discrepancies with this order?	Yes [	<b>✓</b> No □	NA 🗆	
Person Notified	: Mark Jusayan Date:	:	10/2/2020	7	
By Whom:	Clare Griggs Via:	✓ eMail	Phone Fax		
Regarding:	Requesting authorization to proceed ou				
Client Instruction					
19. Additional remarks:	•				

## Item Information

Item #	Temp °C
Sample 1	2.8
Temp Blank 1	1.0

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Same Day			(	×			No.		
		Date/Time	red A	Received	1	Date/Time	Date	1	Relinquished
☐ Next Day	1/20 10/1643	Date/lime	red //	Received	0-21-21/1526	21-20/	C) page		Reliaduished
2 Day	each of the terms on the front and backside of this Agreement.		on ocuan or me	remont Amaryuca	ement.	of this Agre	nd backside	is on the front a	each of the terms on the front and backside of this Agreement
□ 3 Day	have verified Client's agreement to	Nitrate+Nitrite	Fluoride Nitrate	O-Phosphate	Bromide	Sulfate	te Chloride	Nitrate Nitrite	***Anions (Circle):
Standard	Sb Se Sr Sn Ti Ti U V Zn	Mg Mn Mo Na Ni Pb	Cd Co Cr	Individual: Ag Al As B Ba Be Ca		stants TAL	Prio	RO	**Metals (Circle): MTCA-5
Turn-ground time:	Water, WW = Wast	GW = Ground Water,	*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water,	iment, St = Solid, W	= Soil, SD = Sed	= Product, S:	k, O = Other, P	= Aqueous, B = Bul	Matrix: A = Air, AQ
					<	8-21-4135		1-12,5-12	10 MW-16D-12,5-13
						8-21-20-B40		5-11-01-0	5.91-97-040. MM.
						5130 12-12-8		MW-07 D-12-12 5	FO-MM &
						8-20-26 1415	,	S1-541-040-MW	140- MM 4
						826-201350		1-65-7	4-52-040-MM
						3-20101-32-8		3-41-4-050-MM	5 MW-05
						2003SC	8 8-20-	MW-050-7.5-8 8-20-20950	4 MW-05
					0)	384102	58-19.	MW-06P-14-14-58-19-201435	· MW-Co
						8-19-20 0805		MW-010-19,5-20	JIO-WM
		×	_		V.	8-80/05-8-8		MW-03D-21-21.5	MW-02
Comments	THE STATE OF THE S	\$6.5 \ 200 \		SCORTO STATE	Sample Type (Matrix)*	Sample	Sample		Sample Name
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1/4			0			
		ALA	N. CROCKELA	PM Emall: LYNN,	9	7	786	1284-280-30	Fax: 200
Disposal by lab (after 30 days)	Sample Disposal: Return to client D	CROCHALLA .	_	Report To (PM): LYCZ	20		3405	3452-7652-000	Telephone: 20
		7	EXEREIT , WA			18101	W.A.	EXTUR	City, State, Zip: S
	BUT SALVE	YAZ	MACIC JUSAYAN	×		00 E	ST , ST	COCO S	address (e) UNION ST, STE 600
2 17 17 17 17 17 17 17 17 17 17 17 17 17	V			Project No:	P		25	FL040/5V/0612	Client FLO
' of 2	Special Remarks:			2		Fax: 206-352-7178	Amalysical	Analy	
	Laboratory Project No (internal): 200830	Page: ) of: 7		Date: 8-18-20		Seattle, WA 98103 Tel: 206-352-3790		remont	
reement	d & Laboratory Services Agreement	y Record & Labo	Chain of Custody Record	Chain	t Ave N.	3600 Fremont Ave N			SWALD!
1	(A)								

COC 1.2 - 2.22.17

Same Day				(	×			CONTRACTOR OF THE PERSON OF TH		-	*
		Date/Time	14	Received		() ()	Time	Date/Time	7	1	Relinguished
Next Day	/21/20 D 1643	2 Same	をなった	Received // C	`	Date/Time 0-21-23/   べん/	1-20/	Date/Time		X	x X
2 Day		Posto Pilmo	1			ement.	f this Agre	backside o	each of the terms on the front and backside of this Agreement	f the terms	each o
□ 3 Day	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to	I above and that I h	the Client name	cal on behalf of	remont Analyti	ment with F	this Agree	o enter into	am authorized t	sent that I	I repre
;			Nitrate+Nitrite	Fluoride	O-Phosphate	Bromide	Sulfate	Chloride	Nitrate Nitrite		***Anions (Circle):
Standard	Sb Se Sr Sn Ti Ti U V Zn	Mo Na Ni Pb	Cu Fe Hg K Mg Mn	CO C7	individual: Ag Al As B Ba Be Ca Cd	Individual:	tants TAL	Priority Pollutants	A-5 RCRA-8	**Metals (Circle): MTCA-5	**Metals
Turn-around Time:	SW = Storm Water, WW = Waste Water	= Ground Water, SW =	rinking Water, GW	SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water,	liment, St = Solid,	Soil, SD = Sed	Product, S=	O = Other, P =	*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment,	= Air, AQ = A	*Matrix: A
		<				<	8-21-24 13-5		10 MW-160-12,5-13	1-160-	10 MW
							8-21-W840	2-17-8	5-91-91-01-0-MM	40-1	W.W.
							\$1300	8-13-10 0815	271-21-0 to-MW	-07 p-	MW 8
	×		×				31412-0-18	8-20-2	ST-541-040-MW	-040-	7 Mil
	×		×				826-201350		4-5:2- OHO-MM	040-	6 MW
	×		×				351500-21-8	8-20-2	5-41-4-050-MM	-05D	5 MM
	×		×				00950	8-20-2	03800-0-8 8-5-4-050-MM	1-050	35
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		_					8-19-20 0805	8-19-2	MW-010-19,5-20	-010-	2 MIL
	×	×				Ŋ.	8-80/05-8-8		MW-03D-21-21.5	U-03P	3
Comments	TOC Sulfide	10 20 30 30 30 30 30 30 30 30 30 30 30 30 30	4 (64 45 18 03	Profit of the State of the Stat	COSTERA COSTER	Sample Type (Matrix)*	Sample	Sample		Name	Sample Name
		//	Sent Co								
			CROCHELA	LYNN, GRO	PM Email: LY	0		7867	1384-280-30	2000	Fax:
lisposal by lab (after 30 days)	Sample Disposal: Return to client Disposal by lab (after 30 days)		CROCHALLA	_	Report To (PM): LYZZ	D		342	3+25-755-000		Telephone:
20 -CG	Run per MJ, Std TAT, 10/2/20 -CG		. E	ENERETT ;			10136	W.	ATIE !	(38 idz	City, State, Zip:
	ELLE SELE		SAKA POL	MACIC JI	*		600	T , STR	Address (60) UNION ST, STE 600	6010	Address:
25/1	V				Project No:	P		7	FLOYD ISNI PER-	FLOYS	Client:
) of ?	Special Remarks:			321	2		Fax: 206-352-7178	IGAL	Analytical		=
	Laboratory Project No (internal): 200830	of: 2	Page	-20	Date: 8-18-20		Tel: 206-352-3790		Tellon		Ji/
reement	d & Laboratory Services Agreement	ord & Labo	ody Reco	Chain of Custody Record	Chair	Ave N.	3600 Fremont Ave N.				
Market and the second s											

COC 1.2 - 2.22.17



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: Mill E

Work Order Number: 2008303

October 09, 2020

### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 25 sample(s) on 8/21/2020 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Sample Moisture (Percent Moisture)
Sulfide by SM4500-S2-F (MOD)
Total Metals by EPA Method 6020B
Total Organic Carbon by EPA 9060

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 10/09/2020



CLIENT: Floyd | Snider Work Order Sample Summary

Project: Mill E Work Order: 2008303

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2008303-001	MW-02S-2-2.5	08/17/2020 10:40 AM	08/21/2020 3:43 PM
2008303-002	MW-02S-3.8-4.1	08/17/2020 10:50 AM	08/21/2020 3:43 PM
2008303-003	MW-02S-6.8-7	08/17/2020 10:55 AM	08/21/2020 3:43 PM
2008303-004	MW-02S-8.5-8.8	08/17/2020 11:00 AM	08/21/2020 3:43 PM
2008303-005	MW-03S-2-2.5	08/18/2020 8:25 AM	08/21/2020 3:43 PM
2008303-006	MW-03S-5-5.5	08/18/2020 8:30 AM	08/21/2020 3:43 PM
2008303-007	MW-01S-1.5-2	08/18/2020 1:20 PM	08/21/2020 3:43 PM
2008303-008	MW-01S-4.5-5	08/18/2020 1:25 PM	08/21/2020 3:43 PM
2008303-009	MW-01S-7.5-8	08/18/2020 1:40 PM	08/21/2020 3:43 PM
2008303-010	MW-01S-9-9.5	08/18/2020 1:45 PM	08/21/2020 3:43 PM
2008303-011	MW-01S-6-6.5	08/18/2020 1:35 PM	08/21/2020 3:43 PM
2008303-012	MW-06S-3-3.5	08/19/2020 10:35 AM	08/21/2020 3:43 PM
2008303-013	MW-06S-5-5.5	08/18/2020 10:40 AM	08/21/2020 3:43 PM
2008303-014	MW-06S-7-7.5	08/19/2020 10:50 AM	08/21/2020 3:43 PM
2008303-015	MW-06S-8.5-8.9	08/19/2020 10:55 AM	08/21/2020 3:43 PM
2008303-016	MW-05S-5-5.5	08/20/2020 7:45 AM	08/21/2020 3:43 PM
2008303-017	MW-05S-3.5-4	08/19/2020 7:50 AM	08/21/2020 3:43 PM
2008303-018	MW-07S-6.5-7	08/20/2020 4:10 PM	08/21/2020 3:43 PM
2008303-019	MW-07S-7.5-8	08/19/2020 4:15 PM	08/21/2020 3:43 PM
2008303-020	MW-04S-1.5-2	08/19/2020 11:30 AM	08/21/2020 3:43 PM
2008303-021	MW-04S-3-3.5	08/20/2020 11:35 AM	08/21/2020 3:43 PM
2008303-022	MW-04S-6-6.5	08/20/2020 11:40 AM	08/21/2020 3:43 PM
2008303-023	MW-10D-3.5-4	08/21/2020 10:50 AM	08/21/2020 3:43 PM
2008303-024	MW-10D-5.5-6	08/21/2020 10:55 AM	08/21/2020 3:43 PM
2008303-025	MW-07S-4.5-5	08/21/2020 7:35 AM	08/21/2020 3:43 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



### Case Narrative

WO#: **2008303**Date: **10/9/2020** 

CLIENT: Floyd | Snider

Project: Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

9/16/2020: Revision 1 includes additional analyses requested by client. 10/9/2020: Revision 2 includes additional analyses requested by client.



### **Qualifiers & Acronyms**

WO#: **2008303** 

Date Reported: 10/9/2020

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/17/2020 10:50:00 AM

Project: Mill E

**Lab ID:** 2008303-002 **Matrix:** Soil

Client Sample ID: MW-02S-3.8-4.1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B	<u> </u>			Batc	h ID: 29	649 Analyst: TN
Arsenic	8.35	0.200		mg/Kg-dry	1	9/11/2020 4:03:40 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batc	h ID: R6	Analyst: EH
Percent Moisture	3.13	0.500		wt%	1	9/15/2020 9:40:31 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/17/2020 10:55:00 AM

Project: Mill E

**Lab ID:** 2008303-003 **Matrix:** Soil

Client Sample ID: MW-02S-6.8-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batch	n ID: 29	9452 Analyst: CO
Arsenic	31.8	0.195		mg/Kg-dry	1	8/25/2020 3:57:12 PM
Iron	22,700	85.8	D	mg/Kg-dry	20	8/27/2020 11:08:20 AM
Manganese	310	7.80	D	mg/Kg-dry	20	8/27/2020 11:08:20 AM
Sample Moisture (Percent Moisture	)			Batch	ı ID: R	61375 Analyst: CJ
Percent Moisture	2.86	0.500		wt%	1	8/26/2020 8:47:05 AM
Total Organic Carbon by EPA 9060				Batch	n ID: 29	9485 Analyst: SS
Total Organic Carbon	ND	0.0750		%-dry	1	8/27/2020 12:30:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R	61381 Analyst: SS
Sulfide	ND	5.14		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/17/2020 11:00:00 AM

Project: Mill E

**Lab ID:** 2008303-004 **Matrix:** Soil

Client Sample ID: MW-02S-8.5-8.8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batc	h ID: 29	649 Analyst: TN
Arsenic	19.2	0.211		mg/Kg-dry	1	9/11/2020 4:31:28 PM
Sample Moisture (Percent Moisture)	1			Batc	h ID: R6	Analyst: EH
Percent Moisture	12.4	0.500		wt%	1	9/15/2020 9:40:31 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/18/2020 8:25:00 AM

Project: Mill E

**Lab ID:** 2008303-005 **Matrix:** Soil

Client Sample ID: MW-03S-2-2.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020I	<u>3</u>			Batch	n ID: 29	452 Analyst: CO
Arsenic	85.6	0.187		mg/Kg-dry	1	8/25/2020 4:24:44 PM
Iron	20,400	82.3	D	mg/Kg-dry	20	8/27/2020 11:13:54 AM
Manganese	318	7.48	D	mg/Kg-dry	20	8/27/2020 11:13:54 AM
Sample Moisture (Percent Moistur	<u>re)</u>			Batch	n ID: Re	S1395 Analyst: CJ
Percent Moisture	5.84	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060	<u>)</u>			Batch	n ID: 29	Analyst: SS
Total Organic Carbon	0.408	0.0750		%-dry	1	8/27/2020 1:24:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: Re	S1381 Analyst: SS
Sulfide	ND	5.31		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/18/2020 8:30:00 AM

Project: Mill E

**Lab ID:** 2008303-006 **Matrix:** Soil

Client Sample ID: MW-03S-5-5.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batc	h ID: 29	649 Analyst: TN
Arsenic	29.0	0.212		mg/Kg-dry	1	9/11/2020 4:37:02 PM
Sample Moisture (Percent Moisture	).			Batcl	h ID: Ré	S1827 Analyst: EH
Percent Moisture	12.8	0.500		wt%	1	9/15/2020 9:40:31 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/18/2020 1:40:00 PM

Project: Mill E

**Lab ID:** 2008303-009 **Matrix:** Soil

Client Sample ID: MW-01S-7.5-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batch	1D: 2	9452 Analyst: CO
Arsenic	4.98	0.232		mg/Kg-dry	1	8/25/2020 4:50:22 PM
Iron	16,400	102	D	mg/Kg-dry	20	8/27/2020 11:19:28 AM
Manganese	234	9.27	D	mg/Kg-dry	20	8/27/2020 11:19:28 AM
Sample Moisture (Percent Moisture	)			Batch	ID: R	R61395 Analyst: CJ
Percent Moisture	15.1	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060				Batch	ID: 2	9485 Analyst: SS
Total Organic Carbon	ND	0.0750		%-dry	1	8/27/2020 1:41:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ID: R	R61381 Analyst: SS
Sulfide	ND	5.89		mg/Kg-dry	1	8/24/2020 10:50:00 AM

Desiries 40



Batch ID: R61395

Work Order: **2008303**Date Reported: **10/9/2020** 

Analyst: CJ

Client: Floyd | Snider Collection Date: 8/18/2020 1:45:00 PM

Project: Mill E

**Lab ID:** 2008303-010 **Matrix:** Soil

Client Sample ID: MW-01S-9-9.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWT	PH-Dx/Dx Ext.			Batch	n ID: 29	457 Analyst: DW
Diesel (Fuel Oil)	ND	23.1		mg/Kg-dry	1	8/26/2020 2:06:50 PM
Diesel (Fuel Oil)	ND	23.1	SGT	mg/Kg-dry	1	8/26/2020 1:07:06 PM
Heavy Oil	ND	57.9		mg/Kg-dry	1	8/26/2020 2:06:50 PM
Heavy Oil	ND	57.9	SGT	mg/Kg-dry	1	8/26/2020 1:07:06 PM
Heavy Fuel Oil	5,740	57.9		mg/Kg-dry	1	8/26/2020 2:06:50 PM
Heavy Fuel Oil	5,520	57.9	SGT	mg/Kg-dry	1	8/26/2020 1:07:06 PM
Surr: 2-Fluorobiphenyl	109	50 - 150		%Rec	1	8/26/2020 2:06:50 PM
Surr: 2-Fluorobiphenyl	107	50 - 150	SGT	%Rec	1	8/26/2020 1:07:06 PM
Surr: o-Terphenyl	94.2	50 - 150		%Rec	1	8/26/2020 2:06:50 PM
Surr: o-Terphenyl	98.9	50 - 150	SGT	%Rec	1	8/26/2020 1:07:06 PM
NOTES						

### NOTES:

Heavy Fuel Oil - Indicates the presence of unresolved compounds in both the Diesel and Lube+ Oil ranges.

SGT - Silica Gel Treatment

### **Sample Moisture (Percent Moisture)**

Percent Moisture 18.5 0.500 wt% 1 8/26/2020 2:29:34 PM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/18/2020 10:40:00 AM

Project: Mill E

**Lab ID:** 2008303-013 **Matrix:** Soil

Client Sample ID: MW-06S-5-5.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 29	452 Analyst: CO
Arsenic	26.0	0.234		mg/Kg-dry	1	8/25/2020 4:55:56 PM
Iron	17,800	103	D	mg/Kg-dry	20	8/27/2020 11:25:02 AM
Manganese	257	9.36	D	mg/Kg-dry	20	8/27/2020 11:25:02 AM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	n ID: Re	61395 Analyst: CJ
Percent Moisture	13.1	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 29	485 Analyst: SS
Total Organic Carbon	ND	0.0750		%-dry	1	8/27/2020 3:16:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: Re	S1381 Analyst: SS
Sulfide	ND	5.75		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/19/2020 10:50:00 AM

Project: Mill E

**Lab ID:** 2008303-014 **Matrix:** Soil

Client Sample ID: MW-06S-7-7.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 2	29926 Analyst: CO
Arsenic	10.8	0.222		mg/Kg-dry	1	10/7/2020 5:08:57 PM
Iron	16,600	48.8	D	mg/Kg-dry	10	10/8/2020 3:14:46 PM
Manganese	252	4.44	D	mg/Kg-dry	10	10/8/2020 3:14:46 PM
Sample Moisture (Percent Moistur	<u>e)</u>			Batch	ı ID: F	R62383 Analyst: LB
Percent Moisture	14.6	0.500		wt%	1	10/7/2020 9:42:01 AM
Total Organic Carbon by EPA 9060	<u>)</u>			Batch	ı ID: 2	29944 Analyst: SS
Total Organic Carbon	0.0830	0.0750	Н	%-dry	1	10/8/2020 4:06:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: F	R62412 Analyst: SS
Sulfide	ND	0.586	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/19/2020 10:55:00 AM

Project: Mill E

**Lab ID:** 2008303-015 **Matrix:** Soil

Client Sample ID: MW-06S-8.5-8.9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 29	926 Analyst: CO
Arsenic	31.5	0.264		mg/Kg-dry	1	10/7/2020 5:14:30 PM
Iron	20,600	58.0	D	mg/Kg-dry	10	10/8/2020 3:20:19 PM
Manganese	284	5.28	D	mg/Kg-dry	10	10/8/2020 3:20:19 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	n ID: R6	32383 Analyst: LB
Percent Moisture	29.8	0.500		wt%	1	10/7/2020 9:42:01 AM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 29	944 Analyst: SS
Total Organic Carbon	0.326	0.0750	Н	%-dry	1	10/8/2020 4:20:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	S2412 Analyst: SS
Sulfide	ND	0.712	Н	mg/Kg-dry	1	10/7/2020 8:45:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 7:45:00 AM

Project: Mill E

**Lab ID:** 2008303-016 **Matrix:** Soil

Client Sample ID: MW-05S-5-5.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020E	<u>3</u>			Batch	n ID: 2	9452 Analyst: CO
Arsenic	29.8	0.216		mg/Kg-dry	1	8/25/2020 5:01:30 PM
Iron	21,200	95.0	D	mg/Kg-dry	20	8/27/2020 11:30:36 AM
Manganese	300	8.64	D	mg/Kg-dry	20	8/27/2020 11:30:36 AM
Sample Moisture (Percent Moistur	<u>e)</u>			Batch	ı ID: R	61395 Analyst: CJ
Percent Moisture	15.5	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060	<u>)</u>			Batch	1D: 2	9485 Analyst: SS
Total Organic Carbon	0.0770	0.0750		%-dry	1	8/27/2020 3:34:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ID: R	Analyst: SS
Sulfide	ND	5.92		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 4:10:00 PM

Project: Mill E

**Lab ID:** 2008303-018 **Matrix:** Soil

Client Sample ID: MW-07S-6.5-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B	<u>3</u>			Batch	n ID: 29	452 Analyst: CO
Arsenic	33.6	0.248		mg/Kg-dry	1	8/25/2020 5:07:03 PM
Iron	21,300	109	D	mg/Kg-dry	20	8/27/2020 11:36:09 AM
Manganese	292	9.91	D	mg/Kg-dry	20	8/27/2020 11:36:09 AM
Sample Moisture (Percent Moistur	<u>e)</u>			Batch	ı ID: Re	S1395 Analyst: CJ
Percent Moisture	16.6	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060	<u>)</u>			Batch	n ID: 29	Analyst: SS
Total Organic Carbon	0.237	0.0750		%-dry	1	8/27/2020 3:47:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: Re	S1381 Analyst: SS
Sulfide	ND	5.99		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/20/2020 11:40:00 AM

Project: Mill E

**Lab ID:** 2008303-022 **Matrix:** Soil

Client Sample ID: MW-04S-6-6.5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batch	n ID: 2	9452 Analyst: CO
Arsenic	7.99	0.215		mg/Kg-dry	1	8/25/2020 5:12:37 PM
Iron	18,100	94.5	D	mg/Kg-dry	20	8/27/2020 11:41:43 AM
Manganese	281	8.59	D	mg/Kg-dry	20	8/27/2020 11:41:43 AM
Sample Moisture (Percent Moisture	)			Batch	ı ID: R	R61395 Analyst: CJ
Percent Moisture	16.2	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060				Batch	n ID: 2	9485 Analyst: SS
Total Organic Carbon	ND	0.0750		%-dry	1	8/27/2020 4:04:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R	R61381 Analyst: SS
Sulfide	ND	5.96		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/21/2020 10:50:00 AM

Project: Mill E

**Lab ID:** 2008303-023 **Matrix:** Soil

Client Sample ID: MW-10D-3.5-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B	<u> </u>				n ID: 29	9452 Analyst: CO
Arsenic	20.6	0.215		mg/Kg-dry	1	8/27/2020 3:16:14 PM
Iron	21,100	94.6	D	mg/Kg-dry	20	8/27/2020 3:10:40 PM
Manganese	306	8.60	D	mg/Kg-dry	20	8/27/2020 3:10:40 PM
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	ı ID: R	61395 Analyst: CJ
Percent Moisture	5.45	0.500		wt%	1	8/26/2020 2:29:34 PM
Total Organic Carbon by EPA 9060				Batch	1D: 29	9485 Analyst: SS
Total Organic Carbon	0.294	0.0750		%-dry	1	8/27/2020 4:15:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R	61381 Analyst: SS
Sulfide	ND	5.29		mg/Kg-dry	1	8/24/2020 10:50:00 AM



Work Order: **2008303**Date Reported: **10/9/2020** 

Client: Floyd | Snider Collection Date: 8/21/2020 7:35:00 AM

Project: Mill E

**Lab ID:** 2008303-025 **Matrix:** Soil

Client Sample ID: MW-07S-4.5-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020B				Batc	h ID: 29	926 Analyst: CO
Arsenic	48.2	0.191		mg/Kg-dry	1	10/7/2020 5:20:04 PM
Sample Moisture (Percent Moisture)	1			Batcl	h ID: R6	2383 Analyst: LB
Percent Moisture	3.72	0.500		wt%	1	10/7/2020 9:42:01 AM

Date: 10/9/2020



Work Order: 2008303

**QC SUMMARY REPORT** 

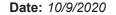
**CLIENT:** Floyd | Snider

Project:	MillE							Sulf	ide by SM4500-S2	?-F (MOD)
Sample ID	: MB-R61381	SampType: MBLK			Units: mg/Kg	l	Prep Date:	8/24/2020	RunNo: <b>61381</b>	
Client ID:	MBLKS	Batch ID: R61381					Analysis Date:	8/24/2020	SeqNo: <b>1231296</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	ıl %RPD RPDLi	mit Qual
Sulfide		ND	5.00							
Sample ID	: LCS-R61381	SampType: LCS			Units: mg/Kg	l	Prep Date:	8/24/2020	RunNo: <b>61381</b>	
Client ID:	LCSS	Batch ID: <b>R61381</b>					Analysis Date:	8/24/2020	SeqNo: <b>1231297</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	ıl %RPD RPDLi	mit Qual
Sulfide		18.0	5.00	20.00	0	90.0	65	135		
Sample ID	: 2008303-003ADUP	SampType: <b>DUP</b>			Units: mg/Kg	-dry	Prep Date:	8/24/2020	RunNo: <b>61381</b>	
Client ID:	MW-02S-6.8-7	Batch ID: R61381					Analysis Date:	8/24/2020	SeqNo: <b>1231299</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	ıl %RPD RPDLi	mit Qual
Sulfide		ND	5.14					ı	)	30
Sample ID	: 2008303-003AMS	SampType: <b>MS</b>			Units: mg/Kg	-dry	Prep Date:	8/24/2020	RunNo: <b>61381</b>	
Client ID:	MW-02S-6.8-7	Batch ID: R61381					Analysis Date:	8/24/2020	SeqNo: <b>1231300</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Va	ıl %RPD RPDLi	mit Qual
Sulfide NOTES:		ND	5.15	20.59	0	0	65	135		S
	=	observed. A duplicate analys	sis was pe	rformed with s	similar results indica	iting a poss	sible matrix effe	ect.		
Sample ID	: 2008303-003AMSD	SampType: MSD			Units: mg/Kg	-dry	Prep Date:	8/24/2020	RunNo: <b>61381</b>	
Client ID:	MW-02S-6.8-7	Batch ID: R61381					Analysis Date:	8/24/2020	SeqNo: <b>1231301</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Va	ıl %RPD RPDLi	mit Qual
Sulfide		ND	5.14	20.59	0	0	65	135	)	30 S

### NOTES:

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





CLIENT:

**QC SUMMARY REPORT** Floyd | Snider

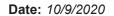
Sulfide by SM4500-S2-F (MOD) Mill E

**Project:** Sample ID: MB-R62412 SampType: MBLK Units: mg/Kg Prep Date: 10/7/2020 RunNo: 62412 Client ID: MBLKS Batch ID: R62412 Analysis Date: 10/7/2020 SeqNo: 1252238 SPK value SPK Ref Val Analyte Result RL %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide ND 0.500 Sample ID: LCS-R62412 SampType: LCS Units: mg/Kg Prep Date: 10/7/2020 RunNo: 62412 Client ID: LCSS Batch ID: R62412 Analysis Date: 10/7/2020 SeqNo: 1252239 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide 1.80 0.500 2.000 90.0 65 135 0 Sample ID: 2008301-001ADUP SampType: DUP Prep Date: 10/7/2020 Units: mg/Kg-dry RunNo: 62412 Client ID: Analysis Date: 10/7/2020 BATCH Batch ID: R62412 SeqNo: 1252241 LowLimit HighLimit RPD Ref Val Analyte Result RL SPK value SPK Ref Val %REC %RPD RPDLimit Qual Sulfide ND 0.607 0 30 Н Sample ID: 2008301-001AMS SampType: MS Units: mg/Kg-dry Prep Date: 10/7/2020 RunNo: 62412 Client ID: **BATCH** Batch ID: R62412 Analysis Date: 10/7/2020 SeqNo: 1252242 SPK value SPK Ref Val Analyte Result RL %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide 1.82 0.607 2.427 0 75.0 65 135 Н Sample ID: 2008301-001AMSD SampType: MSD Prep Date: 10/7/2020 RunNo: 62412 Units: mg/Kg-dry Client ID: BATCH R62412 Analysis Date: 10/7/2020 SeqNo: 1252243 Batch ID: SPK value SPK Ref Val Analyte Result RL %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual 65 Sulfide ND 0.607 2 427 0 20.0 135 1 820 116 30 **RSH** 

NOTES:

SR - Outlying spike recovery(ies) and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

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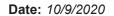
## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Total Organic Carbon by EPA 9060** 

Project: Mill E					Total Orga	anic Carbon by EPA 9060
Sample ID: <b>MB-29485</b>	SampType: MBLK			Units: %-dry	Prep Date: 8/27/2020	RunNo: <b>61453</b>
Client ID: MBLKS	Batch ID: 29485				Analysis Date: 8/27/2020	SeqNo: <b>1232894</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	ND	0.0750				
Sample ID: LCS-29485	SampType: <b>LCS</b>			Units: %-dry	Prep Date: 8/27/2020	RunNo: <b>61453</b>
Client ID: LCSS	Batch ID: 29485				Analysis Date: 8/27/2020	SeqNo: <b>1232895</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	1.06	0.0750	1.000	0	106 80 120	
Sample ID: 2008303-003ADUP	SampType: <b>DUP</b>			Units: %-dry	Prep Date: 8/27/2020	RunNo: <b>61453</b>
Client ID: MW-02S-6.8-7	Batch ID: 29485				Analysis Date: 8/27/2020	SeqNo: <b>1232897</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	0.0750	0.0750			0.01400	137 20
Sample ID: <b>2008303-003AMS</b>	SampType: <b>MS</b>			Units: %-dry	Prep Date: 8/27/2020	RunNo: <b>61453</b>
Client ID: MW-02S-6.8-7	Batch ID: 29485				Analysis Date: 8/27/2020	SeqNo: <b>1232898</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	1.17	0.0750	1.000	0.01400	116 75 125	
Sample ID: <b>2008303-003AMSD</b>	SampType: MSD			Units: %-dry	Prep Date: 8/27/2020	RunNo: <b>61453</b>
Client ID: MW-02S-6.8-7	Batch ID: 29485				Analysis Date: 8/27/2020	SeqNo: <b>1232899</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	1.18	0.0750	1.000	0.01400	117 75 125 1.171	0.935 20

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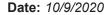
## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### **Total Organic Carbon by EPA 9060**

										on by EP	
Sample ID: MB-29944	SampType: MBLK			Units: %-dry		Prep Date	10/8/202	20	RunNo: 624	142	
Client ID: MBLKS	Batch ID: 29944					Analysis Date	10/8/202	20	SeqNo: 125	52974	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.0750									
Sample ID: LCS-29944	SampType: <b>LCS</b>			Units: %-dry		Prep Date:	10/8/202	20	RunNo: 624	142	
Client ID: LCSS	Batch ID: 29944					Analysis Date	10/8/202	20	SeqNo: 128	52975	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.00	0.0750	1.000	0	100	80	120				
Sample ID: <b>2008301-007AD</b>	JP SampType: DUP			Units: %-dry		Prep Date:	10/8/202	20	RunNo: 624	142	
Client ID: BATCH	Batch ID: 29944					Analysis Date	10/8/202	20	SeqNo: 125	52984	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon  NOTES:  R - High RPD due to susp	0.349	0.0750	s in control as	indicated by the Lab	oratory Co	ontrol Sample (	LCS).	0.2150	47.5	20	RH
Sample ID: <b>2008301-007AM</b>	S SampType: MS			Units: %-dry		Prep Date:	10/8/202	20	RunNo: 624	142	
Client ID: BATCH	Batch ID: <b>29944</b>			•		Analysis Date	10/8/202	20	SeqNo: 128	52985	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.22	0.0750	1.000	0.2150	100	75	125				Н
Sample ID: <b>2008301-007AM</b>	SD SampType: MSD			Units: %-dry		Prep Date	10/8/202	20	RunNo: 624	142	
	SD SampType: MSD  Batch ID: 29944			Units: %-dry		Prep Date: Analysis Date			RunNo: <b>62</b> 4 SeqNo: <b>12</b> 5		
Sample ID: <b>2008301-007AM</b>		RL	SPK value	Units: %-dry SPK Ref Val	%REC	Analysis Date	10/8/202				Qual

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Total Metals by EPA Method 6020B** 

Project: Mill E

Sample ID: <b>MB-29452</b>	SampType: <b>MBLK</b>			Units: mg/Kg		Prep Da	te: <b>8/25/20</b>	20	RunNo: 613	372	
Client ID: MBLKS	Batch ID: 29452					Analysis Da	te: <b>8/25/20</b>	20	SeqNo: <b>123</b>	31135	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.208									
Iron	ND	4.58									
Manganese	ND	0.417									

Sample ID: LCS-29452	SampType: LCS			Units: mg/Kg		Prep Dat	e: <b>8/25/20</b>	20	RunNo: 613	72	
Client ID: LCSS	Batch ID: 29452					Analysis Dat	e: <b>8/25/20</b>	20	SeqNo: <b>123</b>	1136	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.3	0.195	39.06	0	101	80	120				
Iron	399	4.30	390.6	0	102	80	120				
Manganese	40.8	0.391	39.06	0	104	80	120				

Sample ID: 2008324-001AMS	SampType: MS			Units: mg/	Kg-dry	Prep Dat	te: <b>8/25/20</b>	20	RunNo: 613	72	
Client ID: BATCH	Batch ID: 29452					Analysis Da	te: <b>8/25/20</b>	20	SeqNo: <b>123</b>	1139	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.7	0.219	43.78	3.986	104	75	125				
Iron	17,700	4.82	437.8	15,310	546	75	125				ES
Manganese	341	0.438	43.78	274.1	152	75	125				ES

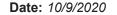
#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2008324-001AMSD	SampType: MSD			Units: mg/l	Kg-dry	Prep Da	te: <b>8/25/20</b>	20	RunNo: 613	372	
Client ID: BATCH	Batch ID: 29452					Analysis Da	te: <b>8/25/20</b>	20	SeqNo: <b>123</b>	31140	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.1	0.217	43.43	3.986	108	75	125	49.67	2.85	20	
Iron	17,700	4.78	434.3	15,310	543	75	125	17,710	0.189	20	ES
Manganese	341	0.434	43.43	274.1	154	75	125	340.5	0.120	20	ES

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





### **QC SUMMARY REPORT**

#### Floyd | Snider **CLIENT:**

### **Total Metals by EPA Method 6020B**

**Project:** Mill E

SampType: MSD

Units: mg/Kg-dry

Prep Date: 8/25/2020

RunNo: 61372

Sample ID: 2008324-001AMSD Client ID: BATCH

Analysis Date: 8/25/2020

SeqNo: 1231140

Batch ID: 29452

Result

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit

Qual

Analyte NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

RL

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2008324-001APDS	SampType: PDS			Units: mg/l	Kg-dry	Prep Da	te: <b>8/25/20</b>	20	RunNo: 613	372		
Client ID: BATCH	Batch ID: 29452		Analysis Date: 8/25/2020							SeqNo: <b>1231143</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron Manganese	16,400 329	4.74 0.431	431 43.1	15,300 274	243 127	75 75	125 125				ES ES	

#### NOTES:

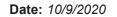
S - Spike recovery indicates a possible matrix effect. The method is in control as indicated by the Laboratory Control Sample (LCS).

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: MB-29649	SampType: MBLK	Units: mg/Kg	Prep Date: 9/11/2020	RunNo: <b>61802</b>
Client ID: MBLKS	Batch ID: 29649		Analysis Date: 9/11/2020	SeqNo: <b>1239607</b>
Analyte	Result	RL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Arsenic	ND (	0.198		

Sample ID: LCS-29649	SampType: LCS			Units: mg/Kg		Prep Dat	te: <b>9/11/20</b>	20	RunNo: <b>618</b>	802	
Client ID: LCSS	Batch ID: 29649					Analysis Dat	te: <b>9/11/20</b>	20	SeqNo: <b>123</b>	9608	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.4	0.198	39.68	0	99.2	80	120				

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### **Total Metals by EPA Method 6020B**

Project: Mill E								Total Wet	als by EPA	· Wethou	0020
Sample ID: <b>2008303-002AMS</b>	SampType: MS			Units: mg/Kg-	dry	Prep Dat	e: <b>9/11/20</b> 2	20	RunNo: 618	302	
Client ID: MW-02S-3.8-4.1	Batch ID: 29649					Analysis Dat	e: <b>9/11/20</b> 2	20	SeqNo: 123	39611	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	54.2	0.205	40.97	8.352	112	75	125				
Sample ID: <b>2008303-002AMSD</b>	SampType: <b>MSD</b>			Units: mg/Kg-	dry	Prep Dat	e: <b>9/11/20</b> 2	20	RunNo: 618	302	
Client ID: MW-02S-3.8-4.1	Batch ID: 29649					Analysis Dat	e: <b>9/11/20</b> 2	20	SeqNo: 123	39612	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.4	0.200	40.01	8.352	105	75	125	54.21	7.32	20	
Sample ID: <b>MB-29926</b>	SampType: <b>MBLK</b>			Units: mg/Kg		Prep Dat	e: <b>10/7/20</b> 2	20	RunNo: 624	102	
Client ID: MBLKS	Batch ID: 29926					Analysis Dat	e: <b>10/7/20</b> 2	20	SeqNo: 125	52157	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.188									
Iron	ND	4.14									
Manganese	ND	0.376									
Sample ID: LCS-29926	SampType: <b>LCS</b>			Units: mg/Kg		Prep Dat	e: <b>10/7/20</b> 2	20	RunNo: 624	102	
Client ID: LCSS	Batch ID: 29926					Analysis Dat	e: <b>10/7/20</b> 2	20	SeqNo: 125	52158	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	35.3	0.185	37.04	0	95.2	80	120				
Iron	348	4.07	370.4	0	94.1	80	120				
Manganese	38.0	0.370	37.04	0	103	80	120				

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**Date:** 10/9/2020



Work Order: 2008303

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

Mill E

### **Total Metals by EPA Method 6020B**

Sample ID: 2010082-001AMS	SampType: MS			Units: mg/K	(g-dry	Prep Dat	te: <b>10/7/20</b>	20	RunNo: 624	02	
Client ID: BATCH						Analysis Da	te: 10/7/20	20	SeqNo: <b>125</b>	2161	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	44.5	0.204	40.80	3.440	101	75	125				
Iron	11,700	4.49	408.0	10,860	198	75	125				ES
Manganese	150	0.408	40.80	130.3	48.5	75	125				S

#### NOTES:

**Project:** 

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2010082-001AMSD	SampType: MSD			Units: mg/k	(g-dry	Prep Da	te: <b>10/7/20</b>	20	RunNo: 624	102	
Client ID: BATCH	Batch ID: 29926					Analysis Da	te: 10/7/20	20	SeqNo: <b>125</b>	2162	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	46.1	0.206	41.10	3.440	104	75	125	44.54	3.50	20	
Iron	10,700	4.52	411.0	10,860	-30.5	75	125	11,670	8.33	20	ES
Manganese	163	0.411	41.10	130.3	80.2	75	125	150.1	8.41	20	

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2010082-001APDS	SampType: PDS			Units: mg/	Kg-dry	Prep Da	te: 10/7/20	20	RunNo: 624	02	
Client ID: BATCH	Batch ID: 29926					Analysis Da	te: 10/7/20	20	SeqNo: 125	2207	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	11,500	4.55	414	10,900	162	75	125				ES

#### NOTES:

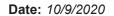
S - Spike recovery indicates a possible matrix effect. The method is in control as indicated by the Laboratory Control Sample (LCS).

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

E - Estimated value. The amount exceeds the linear working range of the instrument.





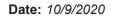
## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Project: Mill E							Diesei	and neavy	On by itt	וויאט-וו	
Sample ID: MB-29457	SampType: MBLK			Units: mg/Kg		Prep Date	e: <b>8/25/20</b>	20	RunNo: 613	82	
Client ID: MBLKS	Batch ID: 29457					Analysis Date	e: <b>8/25/20</b>	20	SeqNo: 123	1331	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	20.8		20.00		104	50	150				
Surr: o-Terphenyl	19.1		20.00		95.4	50	150				
Sample ID: LCS-29457	SampType: <b>LCS</b>			Units: mg/Kg		Prep Date	e: <b>8/25/20</b>	20	RunNo: 613	82	
Client ID: LCSS	Batch ID: 29457					Analysis Date	e: <b>8/25/20</b>	20	SeqNo: <b>123</b>	1332	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	528	20.0	500.0	0	106	65	135				
Surr: 2-Fluorobiphenyl	20.9		20.00		105	50	150				
Surr: o-Terphenyl	21.8		20.00		109	50	150				
Sample ID: <b>2008324-001AMS</b>	SampType: <b>MS</b>			Units: mg/Kg	-dry	Prep Date	e: <b>8/25/20</b>	20	RunNo: 613	82	
Client ID: BATCH	Batch ID: 29457					Analysis Date	e: <b>8/25/20</b>	20	SeqNo: <b>123</b>	1342	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	708	21.2	530.1	107.2	113	65	135				
Surr: 2-Fluorobiphenyl	22.2		21.21		105	50	150				
Surr: o-Terphenyl	23.3		21.21		110	50	150				
Sample ID: <b>2008324-001AMSD</b>	SampType: <b>MSD</b>			Units: mg/Kg	-dry	Prep Date	e: <b>8/25/20</b>	20	RunNo: 613	82	
Client ID: BATCH	Batch ID: 29457					Analysis Date	e: <b>8/25/20</b>	20	SeqNo: 123	1343	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	662	20.9	523.5	107.2	106	65	135	708.3	6.73	30	
Diesel (Fuel Oil)	002										
Diesel (Fuel Oil) Surr: 2-Fluorobiphenyl	21.8		20.94		104	50	150		0		

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Project: Mill E								Diesei	and пеаvy	Oll by NVV	ורח-טג/ו	JX EX
Sample ID: <b>2008296-003ADUP</b>	SampType	: DUP			Units: mg/Kg-	dry	Prep Date	e: <b>8/25/20</b>	)20	RunNo: 613	382	
Client ID: BATCH	Batch ID:	29457					Analysis Date	e: <b>8/26/2</b> 0	)20	SeqNo: 123	31350	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)		ND	19.3						0		30	
Heavy Oil		ND	48.1						0		30	
Surr: 2-Fluorobiphenyl		18.9		19.25		98.2	50	150		0		
Surr: o-Terphenyl		17.6		19.25		91.4	50	150		0		
Sample ID: <b>MB-29457</b>	SampType	e: MBLK			Units: mg/Kg		Prep Date	e: <b>8/25/20</b>	)20	RunNo: 613	 382	
Client ID: MBLKS	Batch ID:	29457					Analysis Date	e: <b>8/26/2</b> 0	)20	SeqNo: <b>123</b>	31352	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)		ND	20.0									SGT
Heavy Oil		ND	50.0									SGT
Surr: 2-Fluorobiphenyl		19.8		20.00		99.1	50	150				SGT
Surr: o-Terphenyl		17.8		20.00		89.0	50	150				SGT
NOTES: SGT - Silica Gel Treatment												
Sample ID: LCS-29457	SampType	: LCS			Units: mg/Kg		Prep Date	e: <b>8/25/2</b> 0	)20	RunNo: 613	382	
Client ID: LCSS	Batch ID:	29457					Analysis Date	e: <b>8/26/2</b> 0	)20	SeqNo: <b>123</b>	31353	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)		500	20.0	500.0	0	100	65	135				SGT
Surr: 2-Fluorobiphenyl		19.9		20.00		99.4	50	150				SGT
Surr: o-Terphenyl		20.8		20.00		104	50	150				SGT
NOTES: SGT - Silica Gel Treatment												

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# Sample Log-In Check List

С	lient Name:	FS		Work Order N	lumber: 2008303	3	
Lo	ogged by:	Carissa T	rue	Date Receive	ed: <b>8/21/20</b> 2	20 3:43:00 PM	
Cha	in of Cust	ody					
	Is Chain of C	_	plete?	Yes 🗸	No 🗌	Not Present	
2.	How was the	sample del	ivered?	Client			
Log	ı İn						
	Coolers are p	oresent?		Yes 🗸	No 🗌	NA 🗌	
				_	_		
4.	Shipping con	tainer/coole	r in good condition?	Yes 🗸	No 🗌		
5.			n shipping container/cooler? Custody Seals not intact)	Yes 🗸	No 🗌	Not Present	
6.	Was an atter	npt made to	cool the samples?	Yes 🗸	No 🗌	NA 🗆	
7.	Were all item	s received	at a temperature of >2°C to 6°C *	Yes 🗸	No 🗆	NA 🗆	
8.	Sample(s) in	proper conf	tainer(s)?	Yes 🗸	No 🗌		
9.	Sufficient sar	mple volume	e for indicated test(s)?	Yes 🗸	No $\square$		
10.	Are samples	properly pre	eserved?	Yes 🗹	No 🗌		
11.	Was preserva	ative added	to bottles?	Yes	No 🗸	NA 🗌	
12.	Is there head	Ispace in the	e VOA vials?	Yes	No 🗌	NA 🗸	
13.	Did all sampl	es containe	rs arrive in good condition(unbroken)?	Yes 🗸	No $\square$		
14.	Does paperw	ork match b	pottle labels?	Yes 🗸	No 🗌		
15.	Are matrices	correctly id	entified on Chain of Custody?	Yes 🗸	No 🗌		
16.	Is it clear wha	at analyses	were requested?	Yes 🗸	No 🗆		
17.	Were all hold	ling times a	ble to be met?	Yes	No 🗸		
<u>Spe</u>	cial Handl	ing (if ap	plicable)				
18.	Was client no	otified of all	discrepancies with this order?	Yes 🗸	No 🗌	NA 🗆	_
	Person	Notified:	Lynn Grochala Date:		8/24/2020		
	By Who	m:	Carissa True Via:	✓ eMail	] Phone 🗌 Fax	☐ In Person	
	Regardi	_	Confirm sulfide method				
	Client Ir	nstructions:	Proceed				
19.	Additional rer	marks:					

Mark Jusayan was contacted on 10/2/20 by Clare Griggs requesting for authorization to proceed with add ons out of hold. Response was to proceed out of hold.

#### **Item Information**

	Item #	Temp °C
Sample 1		2.8
Temp Blank 1		1.0

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Project N Pr	3	Chain of Custody Record &	Laboratory Services Agreement
Second annate:   Seco	Fremont Seattle, WA 98	Date: 8-17-20 Page: 1 of: 2	
COLO UNION STE GOOD  COMMENTARY MARK TUNNY CROCHALA  TO UNION STE GOOD  COMMENTARY MARK TUNNY CROCHALA  Sample Disposit District to dept Disposit		Project Name: M, CC E	
SOLVENIES STE COOC CARREST MASC TUNNAL Sample Disposit   Detains and above and that I have verified Client's agreement to part of the Control of the Crost and above and that I have verified Client's agreement to part Disposit of the Control of th			a. 2
LCX — CRIL—TRIGH  Regart to Prof. LVNNV. CRUCHALA  Sample Disposit: Deturn to clean  Regart to Prof. LVNNV. CRUCHALA  Regart to Prof		Collected by: MARK JUSAYAU	Do
Report to (PM) CP CHALA  Report to (PM) CP CCHALA  Report to (PM) CP	SEATTLE , WA	Location: EMFRETT, WA	
Sample Sa		REPORT TO (PM): LYNN GROCHALT	
Sample Sa	1	PM Email: LYNN, GROCHALA@FLORSNIDE	-
Sample Sa		Maria Color	
-025-2-2-3 BITTLD IC40 S  -025-3-2-4. I IC55  -025-3-2-4. I IC55  -025-3-2-2. BITTLD IC55  -025-	Sample Sample	\$\\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Comments
-015-18-4.   1050   XXXX   X   1000	040/ 00/F/18		X
-0.13 - 2.5 - 3.5 VP/W C87.5 C83.0  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 2  0.15 - 1.5 - 3  0.15 - 1.5 - 2  0.15 - 1.5 - 3  0.15 - 1.5	MW-025-38-4.1		×
1015-15-5 1015-15-5 1015-15-5 1015-15-5 1015-15-5 1015-15-5 1015-15-5 1015-15-7 1015-1	t	X	X
CHS-1.5-2  1873  CHS-1.5-2  1875  CHS-1.5-2	MW-023-85-88 W		X
CSS - 5-55  CSS	MW-033-2-2.5 8/8/20	×××	X
CIS-15-2  (325  (3	NW-053-8-5.5		×
CIS-4.5-5  CIS-4.5-5  CIS-4.5-8  CIS-5-8  CIS-6-8  CIS-6-8  CIS-7-8  CIS-7-8  CIS-6-8  CIS-7-8  CIS-6-8  CIS-7-8  CIS-6-8  CIS-7-8  CIS-6-8  CIS-6-8  CIS-7-8  CIS-6-8  CIS-6-8  CIS-7-8  CIS-7-8  CIS-6-8  CIS-6-	1.5-2		×
CICLE): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al AS B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg/Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti U V Zn Crcle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite  ent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to Date/Time  8-21-726/1-35  Date/Time  Received  Date/Time  Received  Date/Time  Received  Date/Time  Received  Date/Time  Received  Date/Time  Received  Date/Time  Selectived  Date/Time  Received  Date/Time  Selectived  Date/Time  Received  Date/Time			×
AIT, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water   Individual   Individua			XXX
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Turn-around Time:	SW = Storm Water, WW = Waste Water	DW = Drinking Water, GW = Ground Water, SW	W = Water,	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid,	P = Product, S:		*Matrix: A = Air, AQ = Aqueous, B = Bulk,	Matrix: A = Air,	
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12 of	Special Remarks:		Project Name: MICCE		Fax: 206-352-7178	Analytical	Ana		_
	Laboratory Project No (Internal): 300 8303	Page: 2 of: 3	Date: 8-18-20		Tel: 206-352-3790		Lemont		
reement	<b>Laboratory Services Agreement</b>		Chain of Custody Record &	t Ave N.	3600 Fremont Ave N.				_

3	Chain of Custody Record &	Laboratory Services Agreement
Temont Seattle, WA 98103	Date: 8-70-70 Page: 3 of: 2	Laboratory Project Na (internal): 2008303
Amalytical Fax: 206-352-7178	Project Name:	Special Remarks:
Client:	Project No:	
Address:	Collected by:	
City, State, Zip:	Location:	
Telephone:	Report To (PM):	Sample Disposal: Return to client Disposal by lab (after 30 days)
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*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil,	SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = S	SW = Storm Water, WW = Waste Water Turn-ground Time:
**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Inc	Individual: Ag Al (As ) B Ba Be Ca Cd Co Cr Cu (Fe ) Hg K (Mg) Mn Mo Na Ni Pb Sb	Se Sr Sn Ti Ti U V Zn Standard
***Anions (Circle): Nitrate Nitrite Chloride Sulfate B	Bromide O-Phosphate Fluoride Nitrate+Nitrite	A 1
I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named all each of the terms on the front and backside of this Agreement.	with Fremont Analytical on behalf of the Client named al	bove and that I have verified Client's agreement to
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3	Chain of Custody Record & Labo	Laboratory Services Agreement
Fremont Seattle, WA 98103 Tel: 206-352-3790	Date: 8-17-20 Page: 1 of: 3	Laboratory Project No (Internal): 7008303
Amalytical Fax: 206-352-7178	t Name: MCE	Special Remarks:  Special Remarks:  GRUP As Std TAT Report Mn not Mn for the special Remarks:
Client FLOYD SNIDER	Project No:	
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	Location: EMFETT, WA	
200 - 292 - WF8	PM): CYNN	Sample Disposal: Return to client Disposal by lab (after 30 days)
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	Water, DW = Drinking Water, GW = Ground Water,	SW = Storm Water, WW = Waste Water Turn-ground Time:
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Turn-around Time:	SW = Storm Water, WW = Waste Water	DW = Drinking Water, GW = Ground Water, SW	W = Water,	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid,	=Other, P=Produ	*Matrix: A = Air, AQ = Aqueous, B = Bulk, O	ew.
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∖5 of	Special Remarks:		Project Name: MICC E	Fax: 206-352-7178 Pr	1000	Analytical	
	Laboratory Project No (Internal): 700 8303	Page: 2 of: 3	Date: 8-18-20	Tel: 206-352-3790 Da			
reement	Laboratory Services Agreement	80	Chain of Custody Record	3600 Fremont Ave N.	_ w	交通	<b>48</b> )

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SW = Storm Water, WW = Waste Water Turn-ground Time:	W = Water, DW = Drinking Water, GW = Ground Water,	O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild,	B = Bulk, O = Other, P = Produc	*Matrix: A = Air, AQ = Aqueous, B =	-
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Special Remarks:		Fax: 206-352-7178 Project Name:	Anniyaranı Fax:	Am	
Laboratory Project Na (Internal): 2008303	8-70-70 Page: 3 of 3 In	Date:			
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Turn-around Time:	SW = Storm Water, WW = Waste Water		O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water,	W = Water, DW = Dr	diment, SL = Solid,	: Soil, SD = Se	Product, S:	= Other, P =		AQ = Aqueous	*Matrix: A = Air, AQ = Aqueous, B = Bulk,
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reement	<b>Laboratory Services Agreement</b>	80	Chain of Custody Record	of Custo	Chair	t Ave N.	3600 Fremont Ave N.	_ω			

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3090		Nitrate+Nitrite	O-Phosphate Fluoride Nitrate	Bromide O-P	Sulfate	rite Chloride	): Nitrate Nitrite	***Anions (Circle):
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Turn-around Time:	SW = Storm Water, WW = Waste Water	DW = Drinking Water, GW = Ground Water, SW =	W = Water,	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid,	= Product, S = S		*Matrix: A = Air, AQ = Aqueous, B = Bulk,	*Matrix: A = Air,
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reement	Laboratory Services Agreement		Chain of Custody Record &		3600 Fremont Ave N.	-		

3	3600 Fremont Ave N.	Chain of Custody Record & Labo	Laboratory Services Agreement
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***Anions (Circle): Nitrate Nitrite Chloride Su	Sulfate Bromide	e O-Phosphate Fluoride Nitrate+Nitrite	ם נו
I represent that I am authorized to enter into this Agreement each of the terms on the front and backside of this Agreement.	greement with	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I ha each of the terms on the front and backside of this Agreement.	bove and that I have verified Client's agreement to
Reliadushed) Date/Time	8-21-20 / 1535	Received // Ath Date/Time	06 (243 Next Day
Relinquished Date/Time			Same Day
		>>>	(spec(fy)

COC 1.2 - 2.22.17



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: Mill E

Work Order Number: 2008384

October 01, 2020

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 30 sample(s) on 8/27/2020 for the analyses presented in the following report.

Mercury by EPA Method 245.1
Mercury by EPA Method 7471
Sample Moisture (Percent Moisture)
Sulfide by SM4500-S2-F (MOD)
Total Metals by EPA Method 200.8
Total Metals by EPA Method 6020B
Total Organic Carbon by EPA 9060

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 10/01/2020



CLIENT: Floyd | Snider Work Order Sample Summary

Project: Mill E Work Order: 2008384

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2008384-001	MW-08S-4-4.5	08/24/2020 10:25 AM	08/27/2020 3:04 PM
2008384-002	MW-08S-3-3.5	08/24/2020 10:30 AM	08/27/2020 3:04 PM
2008384-003	MW-08S-5-5.6	08/24/2020 10:40 AM	08/27/2020 3:04 PM
2008384-004	MW-08S-7-7.5	08/24/2020 11:05 AM	08/27/2020 3:04 PM
2008384-005	SB-104-3-3.5	08/24/2020 3:05 PM	08/27/2020 3:04 PM
2008384-006	SB-104-6.5-7	08/24/2020 3:10 PM	08/27/2020 3:04 PM
2008384-007	SB-104-1.5-2	08/24/2020 3:15 PM	08/27/2020 3:04 PM
2008384-008	SB-103-2.7-3.2	08/24/2020 4:05 PM	08/27/2020 3:04 PM
2008384-009	SB-103-5.5-6	08/24/2020 4:10 PM	08/27/2020 3:04 PM
2008384-010	SB-103-7-7.5	08/24/2020 4:15 PM	08/27/2020 3:04 PM
2008384-011	SB-103-9.2-9.7	08/24/2020 4:20 PM	08/27/2020 3:04 PM
2008384-012	SB-102-7.5-8	08/24/2020 5:25 PM	08/27/2020 3:04 PM
2008384-013	SB-102-6-6.5	08/24/2020 5:30 PM	08/27/2020 3:04 PM
2008384-014	SB-102-4-4.5	08/24/2020 5:35 PM	08/27/2020 3:04 PM
2008384-015	MW-09S-3-3.3	08/25/2020 8:10 AM	08/27/2020 3:04 PM
2008384-016	MW-09S-5-5.5	08/25/2020 8:20 AM	08/27/2020 3:04 PM
2008384-017	MW-09S-7-7.5	08/25/2020 8:30 AM	08/27/2020 3:04 PM
2008384-018	MW-09S-9-9.3	08/25/2020 8:35 AM	08/27/2020 3:04 PM
2008384-019	SB-100-4-4.5	08/25/2020 2:35 PM	08/27/2020 3:04 PM
2008384-020	SB-100-5.5-6	08/25/2020 2:40 PM	08/27/2020 3:04 PM
2008384-021	SB-100-11-11.5	08/25/2020 2:45 PM	08/27/2020 3:04 PM
2008384-022	SB-101-5-6	08/25/2020 3:45 PM	08/27/2020 3:04 PM
2008384-023	SB-101-2-2.7	08/25/2020 3:50 PM	08/27/2020 3:04 PM
2008384-024	MW-08-09-1SB-100-104	08/26/2020 3:00 PM	08/27/2020 3:04 PM
2008384-025	MW-07+10	08/27/2020 2:00 PM	08/27/2020 3:04 PM
2008384-026	MW-98-99	08/27/2020 2:10 PM	08/27/2020 3:04 PM
2008384-027	MW-04-05-06	08/27/2020 2:20 PM	08/27/2020 3:04 PM
2008384-028	MW-95-96-97	08/27/2020 2:25 PM	08/27/2020 3:04 PM
2008384-029	MW-01-02-03	08/27/2020 2:15 PM	08/27/2020 3:04 PM
2008384-030	DECON H2O	08/27/2020 2:05 PM	08/27/2020 3:04 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



### Case Narrative

WO#: **2008384**Date: **10/1/2020** 

CLIENT: Floyd | Snider

Project: Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

9/9/2020: Revision 1 includes additional analyses requested by the client.

9/16/2020: Revision 2 includes additional analyses requested by the client.

9/24/2020: Revision 3 includes additional analyses requested by the client. Updated revision request

dates in the narrative.



## **Qualifiers & Acronyms**

WO#: 2008384

Date Reported: 10/1/2020

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

#### Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: 2008384

Date Reported: 10/1/2020

**CLIENT:** Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-002 **Collection Date:** 8/24/2020 10:30:00 AM

Client Sample ID: MW-08S-3-3.5 Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed		
Total Metals by EPA Method 6020B				Batch ID: 29539			Analyst: CO	
Arsenic	6.67	0.202		mg/Kg-dry	1	9/1/2	020 4:07:49 PM	
Iron	23,300	44.5	DE	mg/Kg-dry	10	9/3/2	020 11:08:28 AM	
Manganese	475	4.04	D	mg/Kg-dry	10	9/3/2	020 11:08:28 AM	
Sample Moisture (Percent Moistu	<u>re)</u>			Batch	ID: R	61559	Analyst: MM	
Percent Moisture	6.31	0.500		wt%	1	9/2/2	020 8:14:39 AM	
Total Organic Carbon by EPA 9060				Batch ID: 29517		517	Analyst: SS	
Total Organic Carbon	0.643	0.0750		%-dry	1	8/31/2	2020 3:07:00 PM	
Sulfide by SM4500-S2-F (MOD)				Batch	ID: R	61465	Analyst: SS	
Sulfide	ND	5.34		mg/Kg-dry	1	8/28/2020 11:14:22 AM		



Floyd | Snider

## **Analytical Report**

Work Order: 2008384

Date Reported: 10/1/2020

Project: Mill E

**CLIENT:** 

**Lab ID:** 2008384-005 **Collection Date:** 8/24/2020 3:05:00 PM

Client Sample ID: SB-104-3-3.5 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses** Total Metals by EPA Method 6020B Batch ID: 29539 Analyst: CO 64.2 0.208 9/1/2020 4:13:23 PM Arsenic mg/Kg-dry 1 18,000 45.9 D mg/Kg-dry 9/3/2020 11:14:02 AM Iron 10 Manganese 247 4.17 D mg/Kg-dry 10 9/3/2020 11:14:02 AM Batch ID: R61559 Analyst: MM Sample Moisture (Percent Moisture) 9/2/2020 8:14:39 AM Percent Moisture 8.44 0.500 wt% Batch ID: 29554 Analyst: SS Total Organic Carbon by EPA 9060 0.151 0.0750 9/2/2020 11:31:00 AM **Total Organic Carbon** %-dry Batch ID: R61465 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide ND 5.47 mg/Kg-dry 8/28/2020 11:14:22 AM

**Lab ID:** 2008384-006 **Collection Date:** 8/24/2020 3:10:00 PM

Client Sample ID: SB-104-6.5-7 Matrix: Soil

**Analyses** Result **RL Qual** Units **DF Date Analyzed** Batch ID: 29649 Total Metals by EPA Method 6020B Analyst: TN Arsenic 35.4 0.200 mg/Kg-dry 9/11/2020 4:42:36 PM Sample Moisture (Percent Moisture) Batch ID: R61822 Analyst: EH 0.500 9/15/2020 8:25:30 AM Percent Moisture 9.43 wt%



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

Client Sample ID: SB-103-2.7-3.2 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses Total Metals by EPA Method 6020B** Batch ID: 29539 Analyst: CO 77.2 0.213 9/1/2020 4:18:57 PM Arsenic mg/Kg-dry 1 20,900 46.8 D mg/Kg-dry 9/3/2020 11:19:36 AM Iron 10 Manganese 320 4.25 D mg/Kg-dry 10 9/3/2020 11:19:36 AM Batch ID: R61559 Analyst: MM Sample Moisture (Percent Moisture) 7.39 9/2/2020 8:14:39 AM Percent Moisture 0.500 wt% Batch ID: 29554 Analyst: SS Total Organic Carbon by EPA 9060 0.566 0.0750 9/2/2020 11:45:00 AM **Total Organic Carbon** %-dry Batch ID: R61465 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide ND 5.40 mg/Kg-dry 8/28/2020 11:14:22 AM

Client Sample ID: SB-103-5.5-6 Matrix: Soil

**Analyses** Result **RL Qual** Units **DF Date Analyzed** Batch ID: 29649 Total Metals by EPA Method 6020B Analyst: TN Arsenic 49.5 0.207 mg/Kg-dry 9/11/2020 4:59:19 PM Batch ID: R61822 Sample Moisture (Percent Moisture) Analyst: EH 7.06 0.500 9/15/2020 8:25:30 AM Percent Moisture wt%



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-010 **Collection Date:** 8/24/2020 4:15:00 PM

Client Sample ID: SB-103-7-7.5 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses** Batch ID: 29724 Analyst: CO **Total Metals by EPA Method 6020B** 75.8 0.218 9/18/2020 4:33:22 PM Arsenic mg/Kg-dry Batch ID: R61965 Analyst: CJ Sample Moisture (Percent Moisture) 12.6 0.500 Percent Moisture 9/21/2020 10:07:25 AM wt%

**Lab ID:** 2008384-011 **Collection Date:** 8/24/2020 4:20:00 PM

Client Sample ID: SB-103-9.2-9.7 Matrix: Soil

**RL Qual Units Analyses** Result **DF Date Analyzed** Batch ID: 29797 Analyst: CO Total Metals by EPA Method 6020B Arsenic 45.2 0.228 mg/Kg-dry 9/25/2020 5:03:03 PM Batch ID: R62170 Analyst: LB Sample Moisture (Percent Moisture) 0.500 Percent Moisture 13.5 wt% 9/29/2020 10:43:05 AM

Lab ID: 2008384-012 Collection Date: 8/24/2020 5:25:00 PM

Client Sample ID: SB-102-7.5-8 Matrix: Soil

**Units** Result **RL Qual** DF **Analyses Date Analyzed** Batch ID: 29724 **Total Metals by EPA Method 6020B** Analyst: CO 43.2 0.229 9/18/2020 4:38:56 PM Arsenic mg/Kg-dry Sample Moisture (Percent Moisture) Batch ID: R61965 Analyst: CJ Percent Moisture 15.4 0.500 9/21/2020 10:07:25 AM wt%



Date Reported:

Work Order: 2008384

10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-013 **Collection Date:** 8/24/2020 5:30:00 PM

Client Sample ID: SB-102-6-6.5 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses** Total Metals by EPA Method 6020B Batch ID: 29539 Analyst: CO 73.0 0.211 9/1/2020 4:24:31 PM Arsenic mg/Kg-dry 1 18,000 46.5 D mg/Kg-dry 9/3/2020 11:25:09 AM Iron 10 Manganese 242 4.23 D mg/Kg-dry 10 9/3/2020 11:25:09 AM Batch ID: R61559 Analyst: MM Sample Moisture (Percent Moisture) 9/2/2020 8:14:39 AM Percent Moisture 13.0 0.500 wt% Batch ID: 29554 Analyst: SS Total Organic Carbon by EPA 9060 ND 0.0750 9/2/2020 11:58:00 AM **Total Organic Carbon** %-dry Batch ID: R61465 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide ND 5.75 mg/Kg-dry 8/28/2020 11:14:22 AM

**Lab ID:** 2008384-014 **Collection Date:** 8/24/2020 5:35:00 PM

Client Sample ID: SB-102-4-4.5 Matrix: Soil

**Analyses** Result **RL Qual** Units **DF Date Analyzed** Batch ID: 29649 Total Metals by EPA Method 6020B Analyst: TN Arsenic 13.7 0.204 mg/Kg-dry 9/11/2020 5:04:53 PM Batch ID: R61822 Sample Moisture (Percent Moisture) Analyst: EH 0.500 9/15/2020 8:25:30 AM Percent Moisture 5.10 wt%



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-015 **Collection Date:** 8/25/2020 8:10:00 AM

Client Sample ID: MW-09S-3-3.3 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses** Total Metals by EPA Method 6020B Batch ID: 29539 Analyst: CO 10.3 0.202 9/1/2020 4:30:04 PM Arsenic mg/Kg-dry 1 19,100 44.4 D mg/Kg-dry 9/3/2020 11:30:43 AM Iron 10 Manganese 347 4.04 D mg/Kg-dry 10 9/3/2020 11:30:43 AM Batch ID: R61559 Analyst: MM Sample Moisture (Percent Moisture) 9/2/2020 8:14:39 AM Percent Moisture 3.99 0.500 wt% Batch ID: 29554 Analyst: SS Total Organic Carbon by EPA 9060 ND 0.0750 9/2/2020 12:15:00 PM **Total Organic Carbon** %-dry Batch ID: R61465 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide ND 5.21 mg/Kg-dry 8/28/2020 11:14:22 AM

**Lab ID:** 2008384-019 **Collection Date:** 8/25/2020 2:35:00 PM

Client Sample ID: SB-100-4-4.5 Matrix: Soil

**Analyses** Result **RL Qual** Units **DF Date Analyzed** Total Metals by EPA Method 6020B Batch ID: 29724 Analyst: CO Arsenic 672 2.16 mg/Kg-dry 9/22/2020 11:37:46 AM 10 Sample Moisture (Percent Moisture) Batch ID: R61965 Analyst: CJ 0.500 9/21/2020 10:07:25 AM Percent Moisture 13.5 wt%



Work Order: 2008384 Date Reported:

10/1/2020

**CLIENT:** Floyd | Snider

Project: Mill E

Collection Date: 8/25/2020 2:40:00 PM 2008384-020 Lab ID:

Client Sample ID: SB-100-5.5-6 Matrix: Soil

Result **RL Qual** Units DF **Date Analyzed Analyses** Total Metals by EPA Method 6020B Batch ID: 29539 Analyst: CO 192 0.203 9/1/2020 4:46:48 PM Arsenic mg/Kg-dry 1 20,200 44.7 D mg/Kg-dry 9/3/2020 11:36:17 AM Iron 10 Manganese 238 4.06 D mg/Kg-dry 10 9/3/2020 11:36:17 AM Batch ID: R61559 Analyst: MM Sample Moisture (Percent Moisture) 9/2/2020 8:14:39 AM Percent Moisture 8.11 0.500 wt% Batch ID: 29554 Analyst: SS Total Organic Carbon by EPA 9060 0.119 0.0750 9/2/2020 1:11:00 PM **Total Organic Carbon** %-dry Batch ID: R61465 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide ND 5.44 mg/Kg-dry 8/28/2020 11:14:22 AM

2008384-021 Collection Date: 8/25/2020 2:45:00 PM Lab ID:

Client Sample ID: SB-100-11-11.5 Matrix: Soil

**Analyses** Result **RL Qual** Units **DF Date Analyzed** Batch ID: 29649 Total Metals by EPA Method 6020B Analyst: TN Arsenic 23.1 0.227 mg/Kg-dry 9/11/2020 5:10:27 PM Batch ID: R61822 Sample Moisture (Percent Moisture) Analyst: EH 0.500 9/15/2020 8:25:30 AM Percent Moisture 19.7 wt%



Work Order: 2008384

Date Reported: 10/1/2020

**CLIENT:** Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-023 **Collection Date:** 8/25/2020 3:50:00 PM

Client Sample ID: SB-101-2-2.7 Matrix: Soil

Client Sample ID: SB-101-2-2.7				Matrix: So	DII			
Analyses	Result	RL	Qual	Units	DF	Date	Analyzed	
Total Metals by EPA Method 6020B				Batch	ID: 29	539	Analyst: CO	
Arsenic	19.3	0.208		mg/Kg-dry	1	9/1/2	020 4:52:21 PM	
Iron	19,500	45.7	D	mg/Kg-dry	10	9/3/2	020 11:41:51 AM	
Manganese	255	4.15	D	mg/Kg-dry	10	9/3/2	020 11:41:51 AM	
Sample Moisture (Percent Moisture	)			Batch	ID: R	61559	Analyst: MM	
Percent Moisture	8.12	0.500		wt%	1	9/2/2	020 8:14:39 AM	
Total Organic Carbon by EPA 9060				Batch	ID: 29	9554	Analyst: SS	
Total Organic Carbon	ND	0.0750		%-dry	1	9/2/2	020 1:25:00 PM	
Sulfide by SM4500-S2-F (MOD)				Batch	ID: R	61465	Analyst: SS	
Sulfide	ND	5.44		mg/Kg-dry	1	8/28/	2020 11:14:22 AM	



Work Order: 2008384 Date Reported: 10/1/2020

9/1/2020 4:57:55 PM

Analyst: MM

Batch ID: R61559

**CLIENT:** Floyd | Snider

Project: Mill E

Collection Date: 8/26/2020 3:00:00 PM 2008384-024 Lab ID:

Matrix: Soil Client Sample ID: MW-08-09-1SB-100-104

Result **RL Qual** Units DF **Date Analyzed Analyses** Batch ID: 29511 Analyst: WF Mercury by EPA Method 7471 ND 0.269 8/28/2020 1:42:29 PM Mercury mg/Kg-dry Batch ID: 29539 Analyst: CO Total Metals by EPA Method 6020B Arsenic 45.9 0.207 mg/Kg-dry 9/1/2020 4:57:55 PM Barium 49.4 0.413 mg/Kg-dry 9/1/2020 4:57:55 PM 9/1/2020 4:57:55 PM Cadmium ND 0.165 mg/Kg-dry Chromium 58.5 0.0827 mg/Kg-dry 9/1/2020 4:57:55 PM Copper 21.9 0.165 mg/Kg-dry 9/1/2020 4:57:55 PM Lead 7.12 0.165 mg/Kg-dry 9/1/2020 4:57:55 PM Nickel 30.6 0.413 mg/Kg-dry 9/1/2020 4:57:55 PM 0.636 Selenium 0.413 mg/Kg-dry 9/1/2020 4:57:55 PM Silver ND 0.0827 mg/Kg-dry 9/1/2020 4:57:55 PM mg/Kg-dry

NOTES:

Zinc

51.4

#### Sample Moisture (Percent Moisture)

Percent Moisture 12.3 wt% 9/2/2020 8:14:39 AM

0.413

B - Detection in sample is 10x greater than detection in Method Blank. No further action required.



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-025 **Collection Date:** 8/27/2020 2:00:00 PM

Client Sample ID: MW-07+10 Matrix: Soil

Analyses	Result	RL	Qual	Units	D	F Date Analyzed	
Mercury by EPA Method 7471				Batch	ID:	29511 Analyst: WF	
Mercury	ND	0.273		mg/Kg-dry	1	8/28/2020 1:44:05 PM	
Total Metals by EPA Method 6020B				Batch	ID:	29539 Analyst: CO	
Arsenic	26.6	0.219		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Barium	40.8	0.437		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Cadmium	ND	0.175		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Chromium	30.6	0.0875	В	mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Copper	20.7	0.175		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Lead	6.22	0.175		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Nickel	28.4	0.437		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Selenium	0.764	0.437		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Silver	ND	0.0875		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
Zinc	50.2	0.437		mg/Kg-dry	1	9/1/2020 5:03:29 PM	
NOTES:							

 $<sup>\</sup>ensuremath{\mathsf{B}}$  - Detection in sample is 10x greater than detection in Method Blank. No further action required.

Sample Moisture (Percent Moisture) Batch ID: R61559 Analyst: MM

Percent Moisture 15.3 wt% 1 9/2/2020 8:14:39 AM



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

Client Sample ID: MW-98-99 Matrix: Soil

Analyses	Result	RL	Qual	Units	D	F Dat	e Analyzed
Mercury by EPA Method 7471				Batch	ID:	29511	Analyst: WF
Mercury	ND	0.277		mg/Kg-dry	1	8/28	8/2020 1:45:42 PM
Total Metals by EPA Method 6020B				Batch	ID:	29539	Analyst: CO
Arsenic	30.1	0.223		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Barium	50.3	0.446		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Cadmium	ND	0.179		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Chromium	44.3	0.0893	В	mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Copper	22.6	0.179		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Lead	6.35	0.179		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Nickel	33.6	0.446		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Selenium	0.607	0.446		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Silver	ND	0.0893		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
Zinc	51.2	0.446		mg/Kg-dry	1	9/1/	2020 5:09:03 PM
NOTEO							

NOTES:

#### Sample Moisture (Percent Moisture)

Percent Moisture 13.2 wt% 1 9/2/2020 8:14:39 AM

Batch ID: R61559

Revision v3

Analyst: MM

B - Detection in sample is 10x greater than detection in Method Blank. No further action required.



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-027 **Collection Date:** 8/27/2020 2:20:00 PM

Client Sample ID: MW-04-05-06 Matrix: Soil

Analyses	Result	RL Qu	al	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch	ı ID: 29	511 Analyst: WF
Mercury	ND	0.274		mg/Kg-dry	1	8/28/2020 1:50:32 PM
Total Metals by EPA Method 6020B	<u>1</u>			Batch	n ID: 29	539 Analyst: CO
Arsenic	63.4	0.229		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Barium	41.3	0.458		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Cadmium	ND	0.183		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Chromium	30.6	0.0916	В	mg/Kg-dry	1	9/1/2020 5:14:37 PM
Copper	24.5	0.183		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Lead	9.30	0.183		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Nickel	27.1	0.458		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Selenium	0.617	0.458		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Silver	0.148	0.0916		mg/Kg-dry	1	9/1/2020 5:14:37 PM
Zinc	54.2	0.458		mg/Kg-dry	1	9/1/2020 5:14:37 PM

NOTES:

Percent Moisture

14.1

#### Sample Moisture (Percent Moisture)

Batch ID: R61559

wt%

Revision v3

Analyst: MM

9/2/2020 8:14:39 AM

B - Detection in sample is 10x greater than detection in Method Blank. No further action required.



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

Client Sample ID: MW-01-02-03 Matrix: Soil

•						
Analyses	Result	RL Q	ual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch	ID: 29	511 Analyst: WF
Mercury	ND	0.289		mg/Kg-dry	1	8/28/2020 1:52:09 PM
Total Metals by EPA Method 6020B				Batch	ID: 29	Analyst: CO
Arsenic	36.4	0.232		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Barium	44.9	0.464		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Cadmium	ND	0.186		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Chromium	40.8	0.0929	В	mg/Kg-dry	1	9/1/2020 5:20:10 PM
Copper	21.6	0.186		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Lead	5.13	0.186		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Nickel	32.8	0.464		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Selenium	0.635	0.464		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Silver	ND	0.0929		mg/Kg-dry	1	9/1/2020 5:20:10 PM
Zinc	49.8	0.464		mg/Kg-dry	1	9/1/2020 5:20:10 PM
NOTES:						

B - Detection in sample is 10x greater than detection in Method Blank. No further action required.

#### Sample Moisture (Percent Moisture)

Percent Moisture 18.4 wt% 1 9/2/2020 8:14:39 AM

Batch ID: R61559

Revision v3

Analyst: MM



Work Order: 2008384

Date Reported: 10/1/2020

CLIENT: Floyd | Snider

Project: Mill E

**Lab ID:** 2008384-030 **Collection Date:** 8/27/2020 2:05:00 PM

Client Sample ID: DECON H2O Matrix: Water

Client Sample ID: DECON H2O	Matrix: Water								
Analyses	Result	RL Qual	Units	DF	Date Analyzed				
Mercury by EPA Method 245.1			Batc	h ID: 29	510 Analyst: WF				
Mercury	ND	0.100	μg/L	1	8/28/2020 4:53:50 PM				
Total Metals by EPA Method 200.8			Batc	h ID: 29	516 Analyst: CO				
Arsenic	78.9	1.00	μg/L	1	8/31/2020 6:48:34 PM				
Barium	142	2.50	μg/L	1	8/31/2020 6:48:34 PM				
Cadmium	0.578	0.200	μg/L	1	8/31/2020 6:48:34 PM				
Chromium	15.0	1.00	μg/L	1	8/31/2020 6:48:34 PM				
Copper	60.7	2.00	μg/L	1	8/31/2020 6:48:34 PM				
Lead	102	0.500	μg/L	1	8/31/2020 6:48:34 PM				
Nickel	20.1	3.00	μg/L	1	8/31/2020 6:48:34 PM				
Selenium	ND	5.00	μg/L	1	8/31/2020 6:48:34 PM				
Silver	ND	0.250	μg/L	1	8/31/2020 6:48:34 PM				
Zinc	180	2.50	μq/L	1	8/31/2020 6:48:34 PM				

Date: 10/1/2020



Work Order: 2008384

Floyd | Snider

**Project:** 

**CLIENT:** 

**QC SUMMARY REPORT** 

Sulfide by SM4500-S2-F (MOD)

Mill E Sample ID: MB-R61465 SampType: MBLK Units: mg/Kg Prep Date: 8/28/2020 RunNo: 61465 Client ID: **MBLKS** Batch ID: R61465 Analysis Date: 8/28/2020 SeqNo: 1233133 Result RL SPK value SPK Ref Val Analyte %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide ND 5.00 Sample ID: LCS-R61465 SampType: LCS Units: mg/Kg Prep Date: 8/28/2020 RunNo: 61465 Client ID: LCSS Batch ID: R61465 Analysis Date: 8/28/2020 SeqNo: 1233134 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 18.0 20.00 0 65 135 Sulfide 5.00 90.0

Sample ID: 2008384-005ADUP	SampType: <b>DUP</b>			Units: <b>m</b>	g/Kg-dry	Prep Da	te: 8/28/20	20	RunNo: <b>61</b> 4	165	
Client ID: SB-104-3-3.5	Batch ID: R61465					Analysis Da	te: <b>8/28/20</b>	20	SeqNo: <b>123</b>	33137	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.47						0		30	

Sample ID: 2008384-005AMS	SampType: <b>MS</b>			Units: mg/	Kg-dry	Prep Da	te: <b>8/28/20</b>	20	RunNo: 614	165	
Client ID: SB-104-3-3.5	Batch ID: <b>R61465</b>					Analysis Da	te: <b>8/28/20</b>	20	SeqNo: 123	33138	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.46	21.84	0	0	65	135				S

#### NOTES:

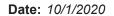
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2008384-005AMSD	SampType: MSD			Units: mg/	Kg-dry	Prep Da	te: <b>8/28/20</b>	20	RunNo: 614	165	
Client ID: SB-104-3-3.5	Batch ID: <b>R61465</b>					Analysis Da	te: <b>8/28/20</b>	20	SeqNo: 123	3139	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.46	21.84	0	0	65	135	0		30	S

#### NOTES:

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.





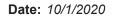
# **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Total Organic Carbon by EPA 9060** 

Project: Mill E						Total Oig	game Carbon by EPA	3000
Sample ID: <b>MB-29517</b>	SampType: MBLK			Units: %-dry		Prep Date: 8/31/2020	RunNo: <b>61533</b>	
Client ID: MBLKS	Batch ID: 29517					Analysis Date: 8/31/2020	SeqNo: <b>1234475</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (	Qual
Total Organic Carbon	ND	0.0750						
Sample ID: LCS-29517	SampType: <b>LCS</b>			Units: %-dry		Prep Date: 8/31/2020	RunNo: <b>61533</b>	
Client ID: LCSS	Batch ID: 29517					Analysis Date: 8/31/2020	SeqNo: <b>1234476</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit 0	Qual
Total Organic Carbon	1.04	0.0750	1.000	0	104	80 120		
Sample ID: 2008365-004ADUP	SampType: <b>DUP</b>			Units: %-dry		Prep Date: 8/31/2020	RunNo: <b>61533</b>	
Client ID: BATCH	Batch ID: 29517					Analysis Date: 8/31/2020	SeqNo: <b>1234481</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (	Qual
Total Organic Carbon	1.63	0.0750				1.547	5.47 20	
Sample ID: 2008365-004AMS	SampType: <b>MS</b>			Units: %-dry		Prep Date: 8/31/2020	RunNo: <b>61533</b>	
Client ID: BATCH	Batch ID: 29517					Analysis Date: 8/31/2020	SeqNo: <b>1234482</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (	Qual
Total Organic Carbon	2.76	0.0750	1.000	1.547	121	75 125		
Sample ID: 2008365-004AMSD	SampType: MSD			Units: %-dry		Prep Date: 8/31/2020	RunNo: <b>61533</b>	
Client ID: BATCH	Batch ID: 29517					Analysis Date: 8/31/2020	SeqNo: <b>1234483</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (	Qual
Total Organic Carbon	2.79	0.0750	1.000	1.547	124	75 125 2.755	1.23 20	

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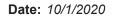
# **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### **Total Organic Carbon by EPA 9060**

Project:	Mill E					Total Orga	anic Carbon by EPA 9060
Sample ID:	MB-29554	SampType: MBLK			Units: %-dry	Prep Date: 9/2/2020	RunNo: <b>61592</b>
Client ID:	MBLKS	Batch ID: 29554				Analysis Date: 9/2/2020	SeqNo: <b>1235623</b>
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organ	nic Carbon	ND	0.0750				
Sample ID:	LCS-29554	SampType: <b>LCS</b>			Units: %-dry	Prep Date: 9/2/2020	RunNo: <b>61592</b>
Client ID:	LCSS	Batch ID: 29554				Analysis Date: 9/2/2020	SeqNo: <b>1235624</b>
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organ	nic Carbon	1.01	0.0750	1.000	0	101 80 120	
Sample ID:	2008384-015ADUP	SampType: <b>DUP</b>			Units: %-dry	Prep Date: 9/2/2020	RunNo: <b>61592</b>
Client ID:	MW-09S-3-3.3	Batch ID: 29554				Analysis Date: 9/2/2020	SeqNo: <b>1235629</b>
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organ	nic Carbon	0.0810	0.0750			0.04600	55.1 20
Sample ID:	2008384-015AMS	SampType: MS			Units: %-dry	Prep Date: 9/2/2020	RunNo: <b>61592</b>
Client ID:	MW-09S-3-3.3	Batch ID: 29554				Analysis Date: 9/2/2020	SeqNo: <b>1235630</b>
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organ	nic Carbon	1.15	0.0750	1.000	0.04600	110 75 125	
Sample ID:	2008384-015AMSD	SampType: MSD			Units: %-dry	Prep Date: 9/2/2020	RunNo: <b>61592</b>
Client ID:	MW-09S-3-3.3	Batch ID: 29554				Analysis Date: 9/2/2020	SeqNo: <b>1235631</b>
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organ	nic Carbon	1.15	0.0750	1.000	0.04600	110 75 125 1.151	0.261 20

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# **QC SUMMARY REPORT**

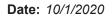
**CLIENT:** Floyd | Snider

#### **Total Metals by EPA Method 200.8**

Project: Mill E							lotal Me	etals by EPA Method	200.8
Sample ID: LCS-29516	SampType: <b>LCS</b>			Units: µg/L		Prep Date:	8/31/2020	RunNo: <b>61522</b>	
Client ID: LCSW	Batch ID: 29516					Analysis Date:	8/31/2020	SeqNo: <b>1234285</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD RPDLimit	Qual
Arsenic	104	1.00	100.0	0	104	85	115		
Barium	98.4	2.50	100.0	0	98.4	85	115		
Cadmium	5.33	0.200	5.000	0	107	85	115		
Chromium	103	1.00	100.0	0	103	85	115		
Copper	97.0	2.00	100.0	0	97.0	85	115		
Lead	48.4	1.00	50.00	0	96.7	85	115		
Nickel	99.1	3.00	100.0	0	99.1	85	115		
Selenium	10.2	5.00	10.00	0	102	85	115		
Silver	5.27	0.250	5.000	0	105	85	115		
Zinc	101	2.50	100.0	0	101	85	115		
Sample ID: 2008369-001CDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	8/31/2020	RunNo: <b>61522</b>	
Client ID: BATCH	Batch ID: 29516					Analysis Date:	8/31/2020	SeqNo: 1234287	

Sample ID: 2008369-001CDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Date: 8/31/2	2020	RunNo: 618	522	
Client ID: BATCH	Batch ID: 29516					Analysis Date: 8/31/2	2020	SeqNo: 123	34287	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimi	t RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.30	1.00					3.555	19.1	30	
Barium	33.7	2.50					35.66	5.64	30	
Cadmium	ND	0.200					0		30	
Chromium	5.01	1.00					5.100	1.87	30	
Copper	7.01	2.00					6.963	0.630	30	
Lead	ND	1.00					0		30	
Nickel	ND	3.00					0		30	
Selenium	ND	5.00					0		30	
Silver	ND	0.250					0.3600	99.1	30	
Zinc	7.62	2.50					5.436	33.5	30	

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**CLIENT:** Floyd | Snider

Project: Mill E

### **QC SUMMARY REPORT**

**Total Metals by EPA Method 200.8** 

Sample ID: <b>2008369-001CMS</b>	SampType: MS			Units: µg/L		Prep Da	te: <b>8/31/2020</b>		RunNo: 615	522	
Client ID: BATCH	Batch ID: 29516					Analysis Da	te: <b>8/31/2020</b>		SeqNo: 123	34288	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Arsenic	504	1.00	500.0	3.555	100	70	130				
Barium	534	2.50	500.0	35.66	99.7	70	130				
Cadmium	25.1	0.200	25.00	0.1025	100	70	130				
Chromium	505	1.00	500.0	5.100	100	70	130				
Copper	495	2.00	500.0	6.963	97.6	70	130				
Lead	244	1.00	250.0	0.3470	97.3	70	130				
Nickel	484	3.00	500.0	2.130	96.3	70	130				
Selenium	51.3	5.00	50.00	0	103	70	130				
Silver	26.3	0.250	25.00	0.3600	104	70	130				
Zinc	489	2.50	500.0	5.436	96.7	70	130				

Sample ID: 2008369-001CMSD	SampType: MSD			Units: µg/L		Prep Da	te: <b>8/31/20</b>	20	RunNo: <b>615</b>	522	
Client ID: BATCH	Batch ID: 29516					Analysis Da	te: <b>8/31/20</b>	20	SeqNo: <b>123</b>	34289	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	512	1.00	500.0	3.555	102	70	130	504.1	1.51	30	•
Barium	553	2.50	500.0	35.66	103	70	130	534.4	3.39	30	
Cadmium	25.5	0.200	25.00	0.1025	102	70	130	25.14	1.58	30	
Chromium	525	1.00	500.0	5.100	104	70	130	504.9	3.81	30	
Copper	503	2.00	500.0	6.963	99.2	70	130	494.7	1.67	30	
Lead	246	1.00	250.0	0.3470	98.5	70	130	243.6	1.17	30	
Nickel	512	3.00	500.0	2.130	102	70	130	483.7	5.73	30	
Selenium	52.6	5.00	50.00	0	105	70	130	51.31	2.54	30	
Silver	27.3	0.250	25.00	0.3600	108	70	130	26.33	3.59	30	
Zinc	491	2.50	500.0	5.436	97.1	70	130	488.7	0.421	30	

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Date: 10/1/2020



ND

ND

ND

ND

ND

1.00

3.00

5.00

0.250

2.50

Work Order: 2008384

Lead

Nickel

Silver

Zinc

Selenium

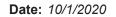
### **QC SUMMARY REPORT**

Floyd | Snider **CLIENT:** 

**Total Metals by EPA Method 200.8** 

Project: Mill E					Total Metals by EPA Method 200.8
Sample ID: <b>MB-29516</b>	SampType: MBLK			Units: µg/L	Prep Date: 8/31/2020 RunNo: 61522
Client ID: MBLKW	Batch ID: 29516				Analysis Date: 9/2/2020 SeqNo: 1235596
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Arsenic	ND	1.00			
Barium	ND	2.50			
Cadmium	ND	0.200			
Chromium	ND	1.00			
Copper	ND	2.00			

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Mercury

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Project:	Mill E							Mercury by EPA Method	1 245.1
Sample ID	: MB-29510	SampType: MBLK			Units: µg/L		Prep Date: 8/28/2020	RunNo: <b>61476</b>	
Client ID:	MBLKW	Batch ID: 29510					Analysis Date: 8/28/2020	SeqNo: <b>1233756</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	ef Val %RPD RPDLimit	Qual
Mercury		ND	0.100						
Sample ID	: LCS-29510	SampType: <b>LCS</b>			Units: µg/L		Prep Date: 8/28/2020	RunNo: <b>61476</b>	
Client ID:	LCSW	Batch ID: 29510					Analysis Date: 8/28/2020	SeqNo: <b>1233758</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	ef Val %RPD RPDLimit	Qual
Mercury		2.61	0.100	2.500	0	104	85 115		
Sample ID	: 2008372-001ADUP	SampType: <b>DUP</b>			Units: µg/L		Prep Date: 8/28/2020	RunNo: <b>61476</b>	
Client ID:	BATCH	Batch ID: 29510					Analysis Date: 8/28/2020	SeqNo: 1233762	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	ef Val %RPD RPDLimit	Qual
Mercury		0.678	0.100				0	.4150 48.1 20	R
<b>NOTES</b> : R - High		ethod is in control as indica	ted by the L	.CS.					
Sample ID	: 2008372-001AMS	SampType: <b>MS</b>			Units: µg/L		Prep Date: 8/28/2020	RunNo: <b>61476</b>	
Client ID:	BATCH	Batch ID: 29510					Analysis Date: 8/28/2020	SeqNo: 1233764	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	ef Val %RPD RPDLimit	Qual
Mercury		3.68	0.100	2.500	0.4150	131	70 130		S
NOTES: S - Outly		observed. A duplicate anal	ysis was pe	erformed and r	ecovered within ran	ge.			
Sample ID	: 2008372-001AMSD	SampType: MSD			Units: µg/L		Prep Date: 8/28/2020	RunNo: <b>61476</b>	
Client ID:	BATCH	Batch ID: 29510					Analysis Date: 8/28/2020	SeqNo: <b>1233766</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD R	ef Val %RPD RPDLimit	Qual

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0.4150

127

70

130

3.680

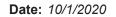
2.75

20

3.58

0.100

2.500





### **QC SUMMARY REPORT**

Floyd | Snider **CLIENT:** 

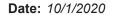
#### **Total Metals by EPA Method 6020B**

Project:	Mill E						Total Me	etals by EPA Method	6020E
Sample ID: MB-29	539	SampType: MBLK			Units: mg/Kg		Prep Date: 9/1/2020	RunNo: <b>61547</b>	
Client ID: MBLK	S	Batch ID: 29539					Analysis Date: 9/1/2020	SeqNo: <b>1234819</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Va	al %RPD RPDLimit	Qual

Arsenic	ND	0.191
Barium	ND	0.382
Cadmium	ND	0.153
Chromium	0.139	0.0763
Copper	ND	0.153
Iron	ND	4.20
Lead	ND	0.153
Manganese	ND	0.382
Nickel	ND	0.382
Selenium	ND	0.382
Silver	ND	0.0763
Zinc	ND	0.382

Sample ID: LCS-29539	SampType: <b>LCS</b>			Units: mg/Kg		Prep Dat	te: <b>9/1/202</b>	0	RunNo: 615	547	
Client ID: LCSS	Batch ID: 29539	)				Analysis Da	te: <b>9/1/202</b>	0	SeqNo: 123	34820	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	37.3	0.184	36.76	0	101	80	120				
Barium	39.2	0.368	36.76	0	107	80	120				
Cadmium	1.90	0.147	1.838	0	103	80	120				
Chromium	38.2	0.0735	36.76	0	104	80	120				В
Copper	38.3	0.147	36.76	0	104	80	120				
Iron	370	4.04	367.6	0	101	80	120				
Lead	19.0	0.147	18.38	0	103	80	120				
Manganese	40.3	0.368	36.76	0	110	80	120				
Nickel	37.7	0.368	36.76	0	102	80	120				
Selenium	3.72	0.368	3.676	0	101	80	120				
Silver	1.74	0.0735	1.838	0	94.5	80	120				
Zinc	38.1	0.368	36.76	0	104	80	120				

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Project:

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Mill E

**Total Metals by EPA Method 6020B** 

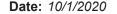
Sample ID: 2008427-001AMS	SampType: MS			Units: mg/	Kg-dry	Prep Da	te: <b>9/1/202</b>	20	RunNo: 615	547	
Client ID: BATCH	Batch ID: 29539					Analysis Da	te: <b>9/1/202</b>	20	SeqNo: 123	34823	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	44.3	0.213	42.57	1.716	100	75	125				
Barium	98.4	0.426	42.57	59.23	92.1	75	125				
Cadmium	2.20	0.170	2.129	0.05501	101	75	125				
Chromium	59.2	0.0851	42.57	18.33	96.1	75	125				В
Copper	49.6	0.170	42.57	9.471	94.3	75	125				
Iron	10,300	4.68	425.7	11,390	-266	75	125				ES
Lead	22.4	0.170	21.29	1.710	97.0	75	125				
Manganese	263	0.426	42.57	219.3	103	75	125				E
Nickel	66.8	0.426	42.57	27.68	91.9	75	125				
Selenium	4.85	0.426	4.257	0.8008	95.1	75	125				
Silver	1.94	0.0851	2.129	0.06089	88.1	75	125				
Zinc	60.7	0.426	42.57	20.09	95.4	75	125				

#### NOTES:

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2008427-001AMSD	SampType: MSD			Units: mg	/Kg-dry	Prep Da	te: <b>9/1/202</b>	0	RunNo: 615	547	
Client ID: BATCH	Batch ID: 29539					Analysis Da	te: <b>9/1/202</b>	0	SeqNo: 123	34824	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.4	0.213	42.57	1.716	103	75	125	44.30	2.53	20	
Barium	107	0.426	42.57	59.23	113	75	125	98.42	8.55	20	
Cadmium	2.18	0.170	2.129	0.05501	100	75	125	2.203	0.938	20	
Chromium	67.1	0.0851	42.57	18.33	114	75	125	59.23	12.4	20	В
Copper	51.7	0.170	42.57	9.471	99.3	75	125	49.60	4.24	20	
Iron	11,600	4.68	425.7	11,390	45.7	75	125	10,250	12.2	20	ES
Lead	22.7	0.170	21.29	1.710	98.7	75	125	22.36	1.57	20	
Manganese	270	0.426	42.57	219.3	119	75	125	263.0	2.53	20	E
Nickel	71.8	0.426	42.57	27.68	104	75	125	66.82	7.15	20	
Selenium	5.00	0.426	4.257	0.8008	98.6	75	125	4.847	3.10	20	
Silver	1.96	0.0851	2.129	0.06089	89.1	75	125	1.936	1.17	20	
Zinc	60.9	0.426	42.57	20.09	95.8	75	125	60.69	0.326	20	

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**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider

Mill E

**Total Metals by EPA Method 6020B** 

RunNo: 61547

Sample ID: 2008427-001AMSD SampType: MSD Units: mg/Kg-dry Prep Date: 9/1/2020

> Analysis Date: 9/1/2020 SeqNo: 1234824

SPK value SPK Ref Val Analyte Result RL %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

NOTES:

Client ID: BATCH

**Project:** 

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: 2008427-001APDS SampType: PDS Prep Date: 9/1/2020 RunNo: 61547 Units: mg/Kg-dry Client ID: BATCH Batch ID: 29539 Analysis Date: 9/1/2020 SeqNo: 1234825 SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result RI %REC Qual 12,700 4.72 429 11.400 306 75 125 ES Iron

NOTES:

Arsenic

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies).

Sample ID: MB-29649 SampType: MBLK Units: mg/Kg Prep Date: 9/11/2020 RunNo: 61802

Client ID: **MBLKS** Batch ID: 29649 Analysis Date: 9/11/2020 SeqNo: 1239607

Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Arsenic ND 0.198

Batch ID: 29539

Sample ID: LCS-29649 SampType: LCS Units: mg/Kg Prep Date: 9/11/2020 RunNo: 61802 Client ID: LCSS Batch ID: 29649 Analysis Date: 9/11/2020 SeqNo: 1239608 SPK value SPK Ref Val Analyte Result RL %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual 39.4 0.198 39.68 0 99.2 80 120 Arsenic

Sample ID: 2008303-002AMS SampType: MS Units: mg/Kg-dry Prep Date: 9/11/2020 RunNo: 61802 Client ID: **BATCH** Analysis Date: 9/11/2020 Batch ID: 29649 SeqNo: 1239611 SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result RL%REC Qual

8.352

112

75

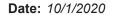
125

0.205

40.97

54.2

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

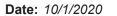
**Total Metals by EPA Method 6020B** 

Project:	Mill E							Tota	al Meta	ils by EPA	Method	6020B
Sample ID:	2008303-002AMSD	SampType: <b>MSD</b>			Units: mg/Kg	g-dry	Prep Date:	9/11/2020		RunNo: 618	02	
Client ID:	BATCH	Batch ID: 29649					Analysis Date:	9/11/2020		SeqNo: 123	9612	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD F	Ref Val	%RPD	RPDLimit	Qual
Arsenic		50.4	0.200	40.01	8.352	105	75	125	54.21	7.32	20	
Sample ID:	MB-29724	SampType: <b>MBLK</b>			Units: mg/Kg	)	Prep Date:	9/18/2020		RunNo: 619	)54	
Client ID:	MBLKS	Batch ID: 29724					Analysis Date:	9/18/2020		SeqNo: <b>12</b> 4	2534	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD F	Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.191									
Sample ID:	LCS-29724	SampType: <b>LCS</b>			Units: mg/Kg	9	Prep Date:	9/18/2020		RunNo: 619	)54	
Client ID:	LCSS	Batch ID: 29724					Analysis Date:	9/18/2020		SeqNo: <b>12</b> 4	2535	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD F	Ref Val	%RPD	RPDLimit	Qual
Arsenic		39.8	0.195	39.06	0	102	80	120				
Sample ID:	2009249-002AMS	SampType: <b>MS</b>			Units: mg/Kg	g-dry	Prep Date:	9/18/2020		RunNo: 619	)54	
Client ID:	BATCH	Batch ID: 29724					Analysis Date:	9/18/2020		SeqNo: <b>12</b> 4	2538	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD F	Ref Val	%RPD	RPDLimit	Qual
Arsenic NOTES:		1.68	0.206	41.19	1.680	0.00676	75	125				S
S - Outly	ring spike recovery(ies)	observed. A duplicate anal	ysis was pe	rformed and r	ecovered within rar	ige.						
Sample ID:	2009249-002AMSD	SampType: MSD			Units: mg/Kg	g-dry	Prep Date:	9/18/2020		RunNo: 619	54	
Client ID:	BATCH	Batch ID: 29724					Analysis Date:	9/18/2020		SeqNo: <b>12</b> 4	2539	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD F	Ref Val	%RPD	RPDLimit	Qual
Arsenic		43.3	0.204	40.89	1.680	102	75	125	1.683	185	20	R

NOTES:

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R - High RPD observed. The method is in control as indicated by the LCS.





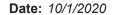
# **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### **Total Metals by EPA Method 6020B**

Project: Mill E								Total Meta	als by EPA	Method	6020B
Sample ID: <b>MB-29797</b>	SampType: MBLK			Units: mg/Kg		Prep Date:	9/25/20	20	RunNo: <b>621</b> 3	31	
Client ID: MBLKS	Batch ID: 29797					Analysis Date:	9/25/20	20	SeqNo: <b>124</b> 6	6376	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.200									
Sample ID: LCS-29797	SampType: <b>LCS</b>			Units: mg/Kg		Prep Date:	9/25/20	20	RunNo: <b>621</b> 3	31	
Client ID: LCSS	Batch ID: 29797					Analysis Date	9/25/20	20	SeqNo: <b>1246</b>	6377	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	34.8	0.191	38.17	0	91.2	80	120				
Sample ID: <b>2008384-011AMS</b>	SampType: <b>MS</b>			Units: mg/Kg-	dry	Prep Date:	9/25/20	20	RunNo: <b>621</b> 3	31	
Client ID: SB-103-9.2-9.7	Batch ID: 29797					Analysis Date	9/25/20	20	SeqNo: <b>1246</b>	6380	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.7	0.221	44.13	45.20	112	75	125				
Sample ID: 2008384-011AMSD	SampType: <b>MSD</b>			Units: mg/Kg-	dry	Prep Date:	9/25/20	20	RunNo: <b>621</b> 3	31	
Client ID: SB-103-9.2-9.7	Batch ID: 29797					Analysis Date:	9/25/20	20	SeqNo: <b>124</b> 6	6381	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.5	0.229	45.89	45.20	116	75	125	94.66	3.95	20	

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**CLIENT:** 

Floyd | Snider

E - Estimated value. The amount exceeds the linear working range of the instrument.

**QC SUMMARY REPORT** 

Project:	Mill E								Merc	cury by EP	PA Metho	d 7471
Sample ID: MB	3-29511	SampType: M	BLK		Units: mg/Kg		Prep Date	e: <b>8/28/202</b>	0	RunNo: 614	174	
Client ID: MB	BLKS	Batch ID: 29	9511				Analysis Date	e: <b>8/28/202</b>	0	SeqNo: 123	33409	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		N	ID 0.25	0								
Sample ID: LC	S-29511	SampType: L0	cs		Units: mg/Kg	<u> </u>	Prep Date	e: <b>8/28/202</b>	0	RunNo: 614	174	
Client ID: LC	ss	Batch ID: 29	9511				Analysis Date	e: <b>8/28/202</b>	0	SeqNo: 123	33410	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.49	98 0.25	0.5000	0	99.6	80	120				
Sample ID: 200	08372-001ADUP	SampType: DI	UP		Units: mg/Kg	-dry	Prep Date	e: <b>8/28/202</b>	0	RunNo: 614	174	
Client ID: BA	тсн	Batch ID: 29	9511				Analysis Date	e: <b>8/28/202</b>	0	SeqNo: <b>12</b> 3	33412	
Analyte		Resu	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.65	53 0.28	1					0.4643	33.8	20	
Sample ID: 200	08372-001AMS	SampType: M	S		Units: mg/Kg	-dry	Prep Date	e: <b>8/28/202</b>	0	RunNo: 614	174	
Client ID: BA	тсн	Batch ID: 29	9511				Analysis Date	e: <b>8/28/202</b>	0	SeqNo: 123	33413	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury NOTES:		0.92	21 0.28	1 0.5623	0.4643	81.2	70	130				E
E - Estimated	d value. The amount e	xceeds the linea	ar working range	of the instrumen	t.							
Sample ID: 200	08372-001AMSD	SampType: M	SD		Units: mg/Kg	-dry	Prep Date	e: <b>8/28/202</b>	0	RunNo: 614	174	
Client ID: BA	тсн	Batch ID: 29	9511				Analysis Date	e: <b>8/28/202</b>	0	SeqNo: 123	33414	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury NOTES:		0.89	99 0.27	6 0.5515	0.4643	78.8	70	130	0.9210	2.43	20	E

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# Sample Log-In Check List

	Work Order Har	nber: <b>2008384</b>	
Logged by: Carissa True	Date Received:	8/27/2020	0 3:04:00 PM
hain of Custody			
1. Is Chain of Custody complete?	Yes 🗸	No $\square$	Not Present
2. How was the sample delivered?	<u>Client</u>		
og In			
og In	Yes 🗸	No 🗆	NA 🗆
3. Coolers are present?	ies 💌	NO 🗀	NA L
4. Shipping container/cooler in good condition?	Yes 🗸	No 🗌	
5. Custody Seals present on shipping container/cooler?	Yes 🗸	No 🗌	Not Present
(Refer to comments for Custody Seals not intact)	_		_
3. Was an attempt made to cool the samples?	Yes 🗸	No 🗌	NA 🗌
7. Were all items received at a temperature of >2°C to 6°C	* Yes ✓	No 🗆	NA 🗆
7. Were all items received at a temperature of >2 C to 6 C	res 💌	NO L	NA L
3. Sample(s) in proper container(s)?	Yes 🗸	No 🗌	
9. Sufficient sample volume for indicated test(s)?	Yes 🗸	No 🗌	
0. Are samples properly preserved?	Yes 🗸	No 🗌	
1. Was preservative added to bottles?	Yes	No 🗸	NA 🗌
2. Is there headspace in the VOA vials?	Yes 🗌	No 🗌	NA 🗸
3. Did all samples containers arrive in good condition(unbrok		No 🗀	
4. Does paperwork match bottle labels?	Yes 🗸	No L	
5. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗌	
6. Is it clear what analyses were requested?	Yes 🗸	No $\square$	
7. Were all holding times able to be met?	Yes 🗸	No 🗌	
pecial Handling (if applicable)	🗔	$\Box$	
8. Was client notified of all discrepancies with this order?	Yes 🗸	No 🗆	NA L
Person Notified: Lynn Grochala	Date:	8/27/2020	
By Whom: Carissa True	Via: ✔ eMail ☐ F	Phone Fax	☐ In Person
Regarding: Total or Dissolved metals			

#### **Item Information**

Item #	Temp °C
Sample 1	1.8
Temp Blank 1	0.7

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Same Day		Date/Time	(	Received		ime	Date/Time		Kelinquished
☐ Next Day	4051 @ on	8/27	R R	X	8-27-20/1436	27-20	8-2	har	The state of the s
2 Day				2	ent.	this Agreem	backside of	on the front and	each of the terms on the front and backside of this Agreement
□ з рау	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client amned above and that I have verified Client's agreement to	d above and that	of the Client-name	Analytical on behalf	nt with Fremont	this Agreeme	enter into	am authorized to	I represent that I
Standard			Nitrate+Nitrite	Fluoride		Sul	Chloride	Nitrate Nitrite	***Anions (Circle):
		Mn Mo Na Ni	Cr Cu (FB) HB K (MB)	Be Ca Cd	individual: Ag Al (	ants TAL	Priority Pollutants		**Metals (Circle): MTCA-5
Turn-around Time:	SW = Storm Water, WW = Waste Water	= Ground Water,	DW = Drinking Water, GW	SL = Solid, W = Water, DW	B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, S	Product, S = So	0 = Other, P =		A =
	×				4	1615	4	7-7.5	10 58-103-7-
	23				\ <u></u>	1610		5.5-6	38-103-5,5-6
	XX	×				1605		2.7-3.2	33-103-2.7-3.2
	×					1515		1.5-2	3B-104-1.5-2
	$\times$					1510		4-5.	5-104-6.5-7
	X	X				1505		3-3.5	\$ 38-104-3-3.5
	X					1/05		St	S.F-T-SOUMM
	×					1040		5.5-6	MW-085-5.5-
	X	×			-	1030	_	3.5	MINGS-3-3.5
	×				8	25010	8/14/20	24-4	NW-085-4-45
Comments		\$ [6] \$ [6]		Signature of the state of the s	Sample Type (Matrix)*	Sample Time	Sample		Sample Name
	"CoM	YDSNIDER, COM	TALA OFL	PMEmail: LYNN. GROCHALACE	PM Email		49	1087-186-201	Fax: 206 -
Disposal by lab (after 30 days)	Sample Disposal: Return to client		PO CHALA	REPORT TO [PM]: LYNN GRECHALA	Report To		3F8	-292-29	Telephone: 206-292-2978
			\$	FNERETT	Location:	0	A 9810	SEATTLE, WA	City, State, Zip: SE
	THE RESIDENCE OF THE PARTY OF T		JUSAYAN	collected by: MARK TU	Collected	STE GOO	1	601 UNION ST,	Address: (60)
				0:	Project No:			Proyolsvioer	client: PLOYD
	Special Remarks:			ame: MICHE	7178 Project Name:	Fax: 206-352-7178	18/11	Analytical	
2008384	Laboratory Project No (Internal): 200	° V	Page:	874-20	Date:	Tel: 206-352-3790	-	GIICIE	
greement	ord & Laboratory Services Agreement	ord & La	stody Rec	Chain of Custody Rec		3600 Fremont Ave N.	_		多值

COC 1.2 - 2 22.17

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Seattle, WA 98103	vecold &	Laboratory Project No (Internal): 2004 384
_	Project Name: MILLE	Special Remarks:
Client: 120/0/5N/108/2		marked samples Per MJ 9/9/20 -CG
Address: 601 UNION ST, STE 600	Collected by: MARIC TUSAYAN	
CITY, STATE, WA 98101	LOCATION: ENERFIT, WA	
Telephone: 206-291-2578	(PM): LYNN	Sample Disposal: Return to client. Disposal by lab (after 30 days)
1284-186- 20G	PMEMAII: LYNN, GROCHALAS FLOYDSNIDER, COM	o <sub>M</sub>
Sample Sample Sample Type  Sample Name  Date  Time (Matrix)*		Comments
55-4-45 8/4/20 1025		X
2 MINGSS-3-3.5 1030 1	X	X Add Mn
3 MW-085-5.5-6 1040		×
SOII S.t 2-5BOMM "		X
5 JB-104-3-3.5   1505	XX	Add Mn
0151 F-5:0-401-86:0	As	X
, SB-104-1.5-2 1515		X
8 53-103-2.7-3.2 1605	XX	Add Mn
93-103-5,5-6 / 1610 /	As	X
10 5B-103-7-7-5 V 1615 V		×
*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment,  **Matrix: Circle): MTCA.S. BCBA.8 Delocity Delicitates Tall Individual: A A	SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water,	Water,
e Nitrite Chloride Sulfate	O-Phosphate Flu	Standard
I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client-named each of the terms on the front and backside of this Agreement.		above and that I have verified Client's agreement to
Rainquished Date/Time	Received Date	2 Day
July	×	© (504 □ Next Day
x Date/time	Received Date/Time	Same Day

COC 1.2 - 2 22.17

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Trembont 1 Sente was also become days to remore days to sente was also become the sentence was also become the senten				
APPLICATION FOR STATE GOOD CARGER BY, MARKET TUSAYAN  SEATTLE, LUA 9810 1  LOG - 291 - 2978  Sample Trape  MAS, Sid TAT, Pepo  Marked Samples Per MM  Run As, Sid TAT, Pepo  Marked Samples Per M  Run As, Sid TAT, Pepo  Marked Samples Trape  Sample Trape	- 3	ont Ave N.	ord &	ratory Services Agreement
ARTICIPATION  AR	-		8-74-70 Page: 1 of 3	Laboratory Project No (Internal): 2008384
CO   UNION ST, STE GOO   Collected by: NVAPL TUNANAN   Run As, Std TAT, per	,,		MILLE	Special Remarks:
The SEATTLE UNA 98101 Incention: ENERGY VARA SIN TAT, per the season to check the control and backed of this Agreement.  COLO - 291 - 1978  Sample S			roject No:	marked samples Per MJ 9/9/20 -CG
The SEATTLE LUM 98101   Incention: FLYERETT LUM  20G-291-1918   Sample   Sa	(601 UNION ST,		MARK	Run As, Std TAT, per MJ 9/16/20 -cg
Report to print; LYNN, CROCHALA ROS NOTES, COM  OGG - GGR 2-78 G.7  PAR Email: LYNN, CROCHALAR ROND SUNDER, COM  OGR - GGR 2-78 G.7  Sample Sa	SEATTLE, WA		ENERETT	
AS SUCH TO COME. P. Product. S. Soll, SD. Sollid, W. Water, DW. Draibing Water, SW. Summitted to enter into this Agreement.    OCC   COCK   CO	206-292-205		IPMI: LYNN CROCHALA	
Sample Sa		,	F	3
Sample Sa			THE CONTROL OF	
1020   1020	Sample Date	Sample Type (Matrix)*		Comments
1020   1030   1030   1040   1050   1040   1050   1040   1050   1040   1050   1040   1050   1040   1050	8/14/20	S		X
085-7-3.5  1105  1		· 5	X	
CH-C-S-7.   ISOS   ISOS   ISOS   AS   XXX   Add Min   CH-C-S-7.   ISOS   ISOS   AS   XXX   Add Min   CH-C-S-7.   ISOS   ISOS   ISOS   AS   XXX   Add Min   CH-C-S-7.   ISOS   I		0		×
CH-3-3.5   ISOS   ISOS   AS   XX   Add Mn   CH-1.5-7   ISOS   IS		S		X
CY-1.5-7.   ISTO   AS   X   X   Add Min   CY-1.5-7.   ISTO   ISTO   AS   X   X   Add Min   CY-1.5-7.   ISTO   ISTO   ISTO   AS   X   X   Add Min   CY-1.5-7.   ISTO   ISTO   ISTO   ISTO   AS   X   X   Add Min   CY-1.5-7.   X   ISTO		M	XX	Add Mn
CS-2.7-3.2   COS   COS-2.7-3.2   COS   COS-2.7-3.2   COS-3.5-CO   CO		G	As	X
CCS-7:7-3.2    GOS    AS    X      Add Mn    CCS-5:5-Co	104-1.5-2	V\		X
C  S - S   S - C		5	XX	Add Mn
AIT, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, www = Waste Water    Local Priority Pollutants   TAL   Individual: Ag Al & B & B & Ca & Cd & Ca & Ca & Ca & Ca & Ca & Ca	(	0	As	X
AIr, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soll, SD = Sediment, SL = Solld, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Water water ircle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag AI ( B B B Ca Cd Co Cr Cu ( R K ( M) Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti U V Zn ( Crcle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite  ent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cliont-quamed above and that I have verified Client's agreement to the front and backside of this Agreement.  Date/Time  Date/Time  Date/Time  Date/Time  Received  Date/Time  Date/Time	58-103-7-7.5 V	8	As	×
Circle): Mitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite  ent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cliont-named above and that I have verified Client's agreement to the terms on the front and backside of this Agreement.  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Received  Date/Time  Sar	Q = Aqueous, 8 = Bulk,	S = Soil, SD = Sed	SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water,	WW = Waste Water
ent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cliont-named above and that I have verified Client's agreement to the terms on the front and backside of this Agreement.    Date/Time	MTCA-5 RCRA-8 Priority Pollutants		All (w) B Ba Be Ca Cd Co Cr Cu (Fe) Hg K (Mg) Mn Mo Na Ni Pb Sb	Sr Sn TI U V Zn
The terms on the front and backside of this Agreement.  Date/Time	I represent that I am authorized to enter into this Agra	te Bromide		
Date/Time Date/Time Date/Time Date/Time Date/Time San	each of the terms on the front and backside of this Agr	reement.		
Date/Time Received Date/Time	An	2/143	x Date	D 1504
	1		Received C	Same Day

www.fremontanalytical.com

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Same Day		Date/Time		Received C		me	Date/Time	1	Relinquished
Next Day	4051 @ on	Date/Time	R	Received x	8-27-20/1436	27-70	8-2	from	Reimquished
☐ 3 Day	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cliont-named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	above and that I ha	f the Client named :	t Analytical on behalf o	ent with Fremon nent.	this Agreem this Agreen	backside of	I represent that I am authorized to enter into this Agreement each of the terms on the front and backside of this Agreement.	I represe
			Nitrate+Nitrite	O-Phosphate Fluoride	Bromide O-I	Sulfate	Chloride	cle): Nitrate Nitrite	***Anions (Circle):
Standard	Se Sr Sn Ti Ti U V Zn	n Mo Na Ni Pb Sb	Cd Co Cr Cr) € Hg K (Mg) Mn	Be Ca	Individual: Ag Al 🔞 B Ba	ints TAL	Priority Pollutants	le): MTCA-5 RCRA-8	**Metals (Circle): MTCA-5
Turn-around Time:	SW = Storm Water, WW = Waste Water	GW = Ground Water, SW = SI		SL = Solid, W = Water, DW = Drinking Water,	O = Other, P = Product, S = Soil, SD = Sediment,	Product, S = S	O = Other, P =	Bulk,	*Matrix: A = A
	X		As		4	1615	4	58-103-7-7.5	10 583-1
	X		As			1610	_	33-103-5,5-6	9 35-10
	Add Mn	X				1605		53-103-2.7-3.2	8 53-1
	X					1515		38-104-1.5-2	,38-1
	X		As			1510		8-104-6.5-7	038-10
	Add Mn	XX				1505		38-104-3-3.5	538-10
	X					1105		S.f-7-2800MM	A MWGG
	×					1040		MW-085-5.5-6	3 MW-6
	X Add Mn	×				1030		MW085-3-3.5	2 MNOG
	X				8	1025	8/14/20	S.H-H-880-MM	35
Comments	TO SERVICE OF THE PARTY OF THE		14 6 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		Sample Type (Matrix)*  SG	Sample	Sample	e	Sample Name
	CoM	DSNIDER, C	ALAG FLOY	PM Email: LYNN, GROCHALACE	PM Emai		198	1087-180-002	Fax: 20
Disposal by lab (after 30 days)	Sample Disposal: Return to client		COHALA		Report T		8 FD	Telephone: 206-292-2078	Telephone:
VIJ 9/24/20 -DD	Run As, Stu   AT, per MJ 9/24/20 -BB		5	ENERGIT	Location:	-	1A 98101	SEATTLE, WA	City, State, Zip:
	Run As, Std TAT, per MJ 9/16/20 -cg		JUSAYAN	* MARK	Collected by:	STE GOO		601 UNION ST	Address: (
9/9/20 -CG	marked samples Per MJ 9/9/20 -CG				Project No:			STONO ISONOFIC	Client: P
	Special Remarks:			Project Name: MILL E		Fax: 206-352-7178	# Territ	Analytical	
	Laboratory Project No (Internal): 2008384	9.	Page: 1	Date: 8-24-20		Seattle, WA 98103 Tel: 206-352-3790		rremont	<b>-</b>
greement	<b>Laboratory Services Agreement</b>	д 20	stody Reco	Chain of Custody Reco	Ave N.	3600 Fremont Ave N.	.		实主

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December 23, 2020 Lab no. 220334a

Mr. Randy Pratt GSI Water Solutions 55 SW Yamhill Street, Suite 300 Portland, Oregon 97204

The

Dear Mr. Pratt:

Enclosed is the scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS) results for your sample, "MW-04D 18.6-19.6 Mag". This report will be emailed to you and to Brad Bessinger.

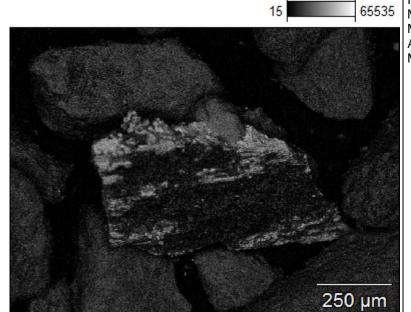
The sample was mounted on carbon tape for analysis. LV (low vacuum) mode was used to prevent charging. Images, maps and chemical compositions are included.

Thank you for the opportunity to be of service to GSI Water Solutions.

Sincerely,

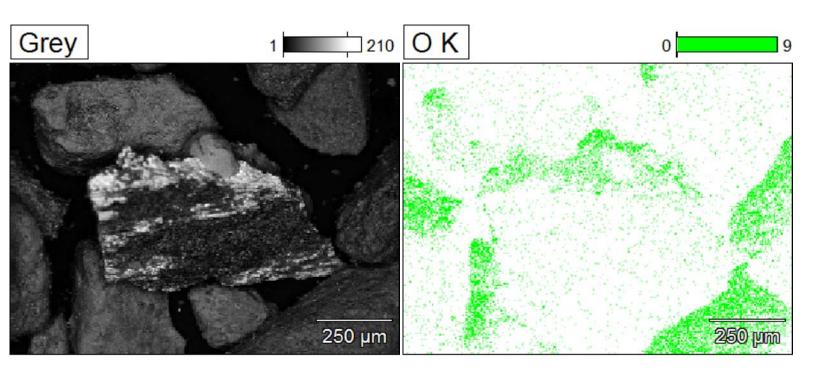
Joy Maes The Mineral Lab, Inc.

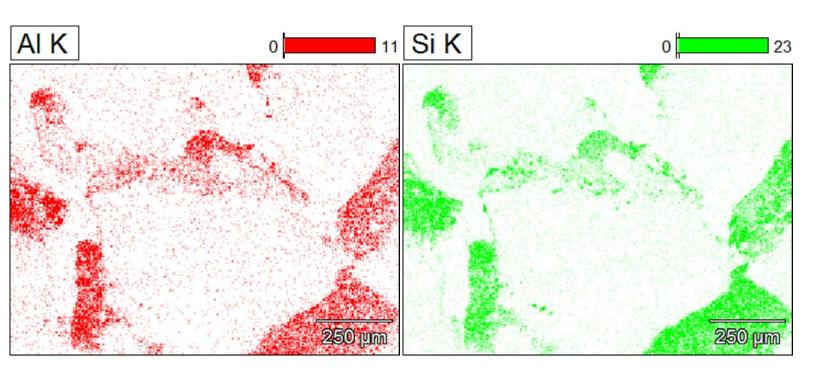
### MW-04D 18,6-19,6(1)

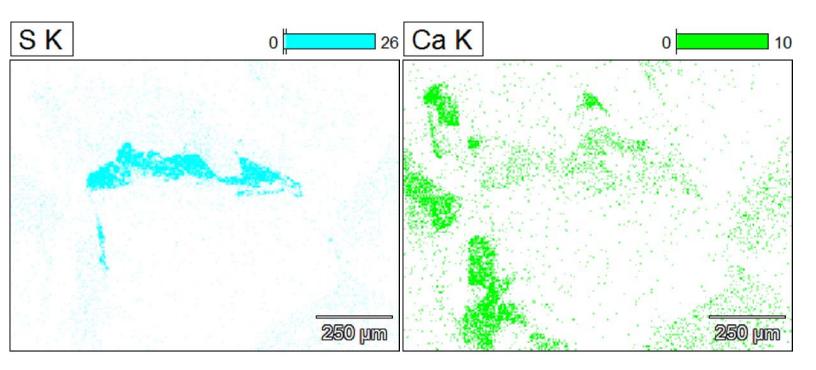


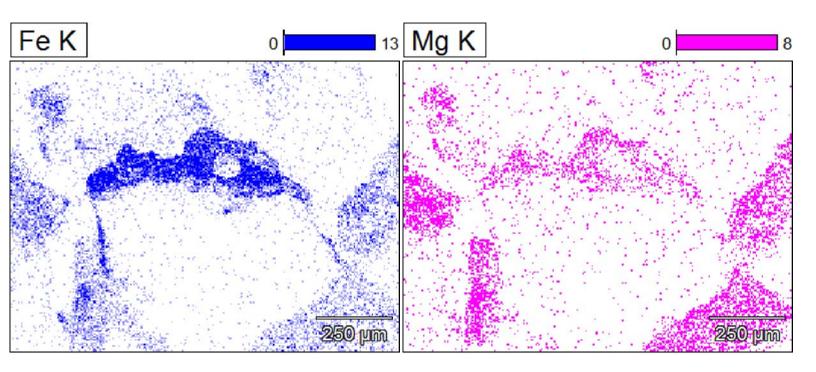
Data Type:
Image Resolution:
Image Pixel Size:
Map Resolution:
Map Pixel Size:
Map Pixel Size:
Acc. Voltage:
Magnification:

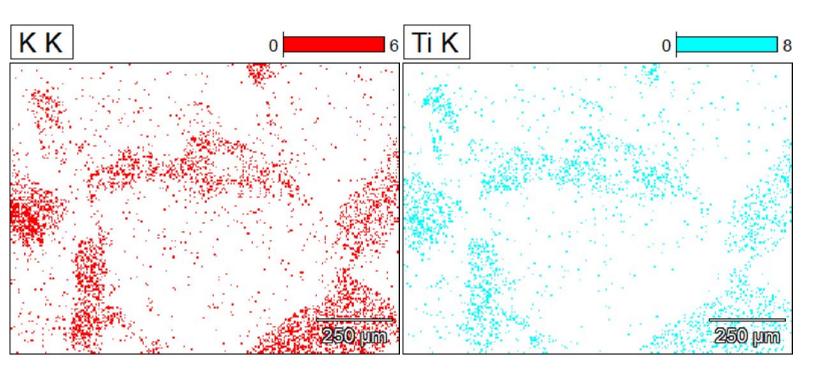
Counts
1024 by 768
1.27 µm
256 by 192
5.09 µm
20.0 kV
100

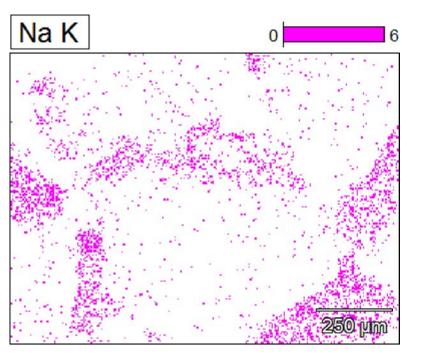


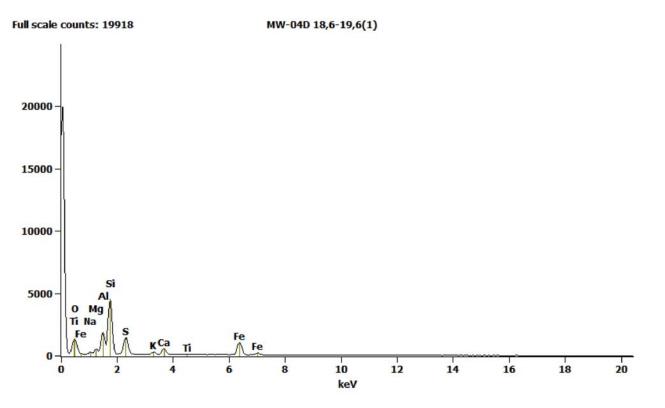






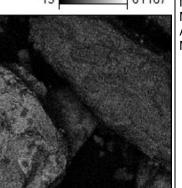






Element	Weight %	Weight %	
Line		Error	
ОК	46.04S		
Na K	0.41	+/- 0.11	
Mg K	0.56	+/- 0.19	
Al K	6.10	+/- 0.12	
Si K	17.71	+/- 0.18	
S K	7.06	+/- 0.11	
KK	1.13	+/- 0.09	
Ca K	2.96	+/- 0.12	
Ti K	0.80	+/- 0.10	
Fe K	17.23	+/- 0.30	
Total	100.00		

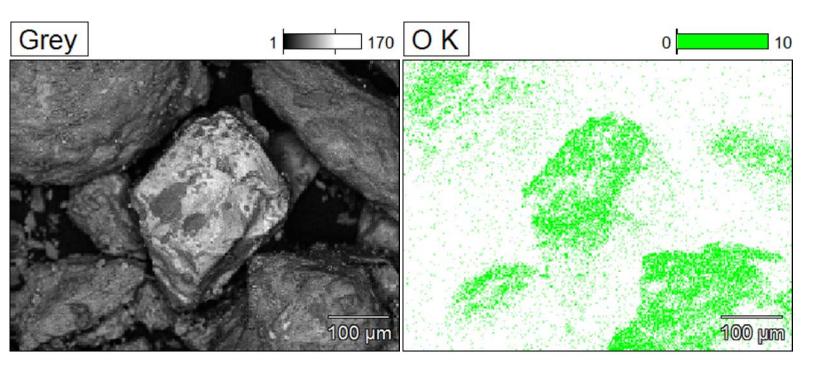
### MW-04D 18,6-19,6(2)

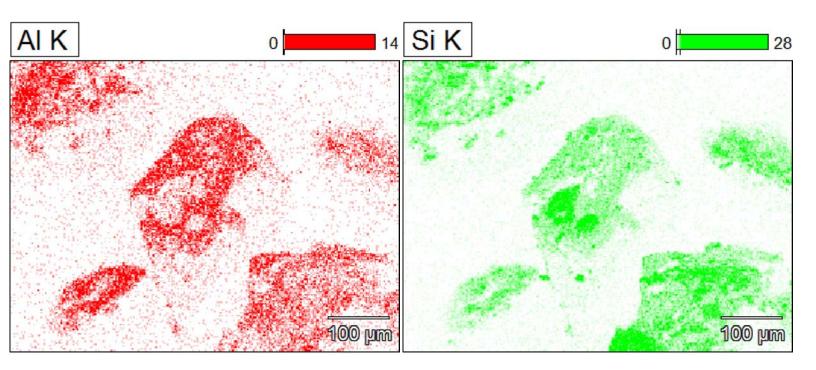


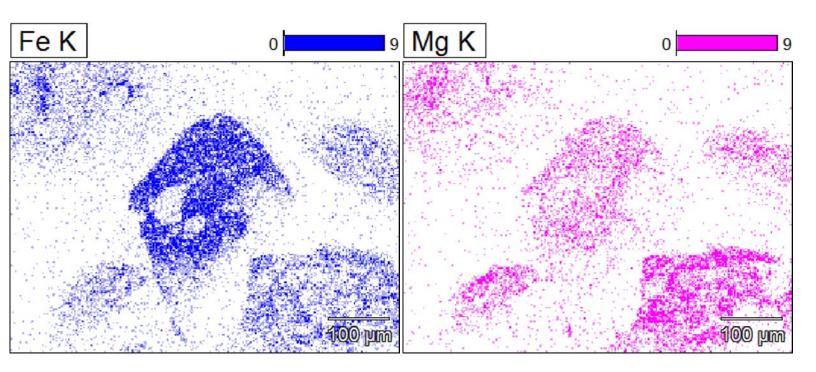
100 µm

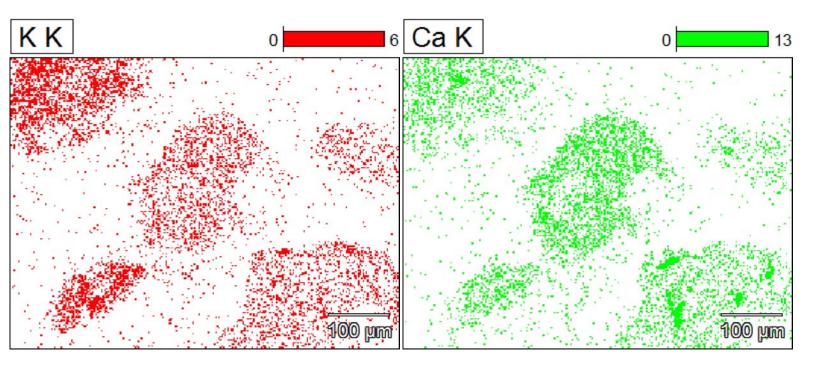
Data Type:
Image Resolution:
Image Pixel Size:
Map Resolution:
Map Resolution:
Map Pixel Size:
Acc. Voltage:
Magnification:

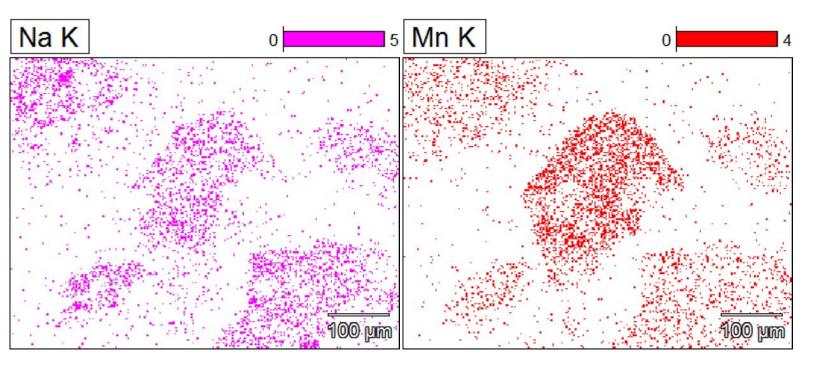
Counts
1024 by 768
0.64 µm
256 by 192
2.54 µm
20.0 kV
Magnification:

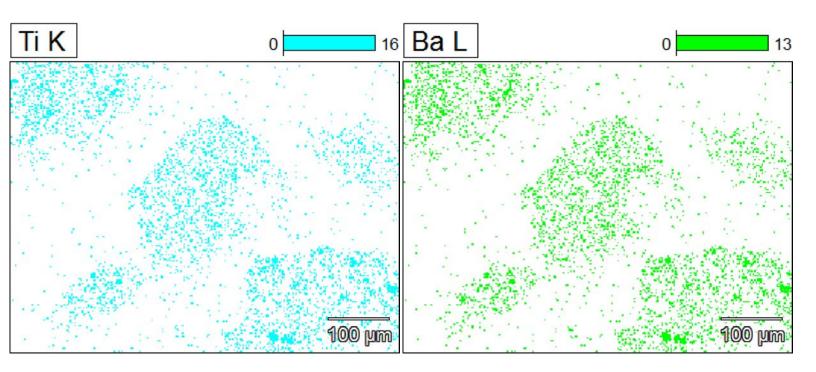


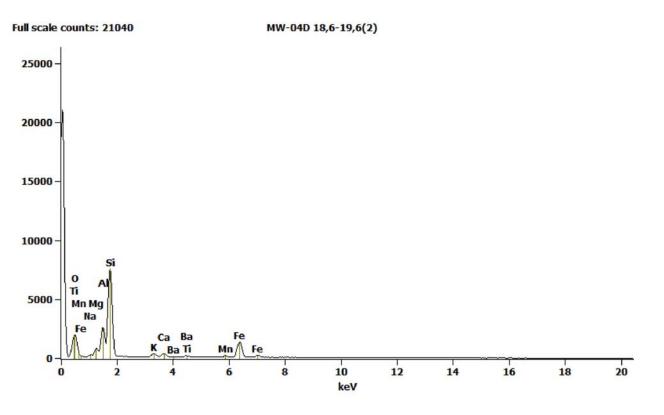












Element	weight %	weight %	
Line		Error	
ОК	44.33S		
Na K	0.00		
Mg K	0.73	+/- 0.12	
Al K	6.75	+/- 0.10	
Si K	24.86	+/- 0.18	
KK	1.22	+/- 0.04	
Ca K	1.36	+/- 0.10	
Ti K	0.71	+/- 0.14	
Mn K	1.44	+/- 0.09	
Fe K	18.15	+/- 0.29	
Ba L	0.46	+/- 0.28	
Total	100.00		

Mr. Randy Pratt GSI Water Solutions 55 SW Yamhill Street, Suite 300 Portland, Oregon 97204

Dear Mr. Pratt:

Enclosed are the x-ray fluorescence (XRF) results for six of your samples ("Mag" and "Nonmag" fractions of three samples) and the x-ray diffraction (XRD) results for all 17 samples (that includes the "Mag" and "Nonmag" fractions). The SEM report is being sent to you under separate cover. This report will be mailed to you and emailed to you and Brad Bessinger. The SEM report will be emailed only.

Three of the samples ("MW-06D 18.1-19.1", "MW-10D 6.5-7.5" and "MW-04D 18.6-19.6") were sent to Resource Development, Inc for magnetic separation to concentrate the Fe rich minerals in the magnetic fractions. These fractions are treated as separate samples (labeled with the suffix, "Mag" and "Nonmag") in this report.

A representative portion of each sample was ground to approximately -400 mesh in a steel swing mill for analysis. A portion of each of the six ground "mag" and nonmag" samples was analyzed by our standard XRF procedure for 31 major, minor and trace elements. The relative precision/accuracy for this procedure is ~5–10% for major–minor elements and ~10–15% for trace elements (those elements listed in ppm) at levels greater than twice the detection limit in samples of average geologic composition. A replicate sample and a standard reference material ("GSP-2", a USGS standard rock) were analyzed with the samples to demonstrate analytical reproducibility for your samples and analytical accuracy for a geologic standard, respectively. The accepted ("known") values for the quality control standard are listed with the XRF results.

A representative portion of each ground sample (17 samples) was packed into a well-type plastic holder and then scanned with the diffractometer over the range,  $3-61^{\circ}2\theta$  using Cu-K $\alpha$  radiation. The results of the scans are summarized as approximate mineral weight percent concentrations on the enclosed table. Estimates of mineral concentrations were made using our XRF-determined elemental compositions and the relative peak areas on the XRD scans. The detection limit for an average mineral in these samples is ~1-3% and the analytical reproducibility is approximately equal to the square root of the amount. "Unidentified" accounts for that portion of the scan which could not be resolved and a "?" indicates doubt in both mineral identification and amount.

Thank you for the opportunity to be of service to GSI Water Solutions.

Sincerely,

(2011bie rar	DE12 F12	rea pera	JW <i>)</i>				Wt % -						
IDENT	Na <sub>2</sub> 0	Mg0	A1 <sub>2</sub> 0 <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	S	Cl	K <sub>2</sub> 0	CaO	TiO <sub>2</sub>	MnO	Fe <sub>2</sub> 0 <sub>3</sub>	Ba0
1A	3.30	3.64	14.5	55.1	0.22	0.44	0.03	1.31	4.08	0.84	0.13	7.16	0.04
1B	3.06	1.79	11.5	70.1	0.15	0.37	< 0.02	1.24	2.15	0.39	0.06	3.84	0.04
2A	2.89	5.05	15.6	55.3	0.21	0.13	0.02	1.39	4.13	1.01	0.16	8.58	0.04
2B	3.18	1.51	12.3	68.8	0.12	0.07	< 0.02	1.43	2.28	0.34	0.04	2.89	0.05
3A	2.72	4.46	14.8	53.2	0.23	0.17	0.03	1.35	4.22	0.94	0.16	8.24	0.04
3B <b>Quality Cont</b> r	3.34	1.28	12.2	74.9	0.11 lard refer	0.18	< 0.02	1.40 -2) anal	2.15	0.27	0.04	2.61	0.05
1A(R)	3,28	3,60	14.4	55.1	0.22	0.44	0.03	1.31	4.09	0.84	0.13	7.14	0.04
GSP-2-XRF GSP-2-known	3.09 2.78	1.11 0.96	14.5 14.9	66.1 66.6	0.33 0.29	0.09	0.06	5.45 5.38	2.15 2.10	0.60 0.66	0.04 0.04	4.19 4.90	0.15 0.15
IDENT	 V		Co	 Ni	 W		PPM			 Pb	 Mo	Sr	 U
		Cr 150				<b>Cu</b> 33	<b>Zn</b> 89	<b>As</b> 21	<b>Sn</b>	< 10		205	
1A	160	158	< 10	46	1.6 <sup>10</sup>				< 20		< 10		< 10
1B	68	90	< 10	26	< 10	20	41	< 20	< 20	< 10	< 10	198	< 10
2A	179	259	< 10	70	< 10	39	112	51	< 20	< 10	< 10	196	< 10
2B	65	96	< 10	28	< 10	18	39	34	< 20	< 10	< 10	228	< 10
3A	176	175	< 10	64	< 10	31	105	< 20	< 20	< 10	< 10	207	< 10
3B <b>Quality Cont</b> r	55 <b>rol</b>	160	< 10	22	< 10	14	33	< 20	< 20	< 10	< 10	221	< 10
1A(R)	161	159	< 10	45	< 10	31	91	< 20	< 20	< 10	< 10	208	< 10
GSP-2-XRF GSP-2-known	39 52	19 20	< 10 7	< 10 17	< 10	49 43	109 120	< 20	< 20	26 42	< 10	212 240	< 10 2
			- PPM -						_ Samp1	e Labels			
Ident	Th	Nb	Zr	Rb	Υ		Ident		- Julipi	C LUDCIS			
1A	< 10	< 10	126	31	27		1A	MW-0	6D 18.1-19	).1 Mag			
1B	< 10	< 10	96	27	14		1B	MW-O	6D 18.1-19	).1 Nonmag			
2A	< 10	< 10	132	34	32		2A	MW-1	OD 6.5-7.5	5 Mag			
2B	< 10	< 10	87	31	12		2B	MW-1	OD 6.5-7.5	5 Nonmag			
3A	< 10	< 10	124	33	32		3A	MW-0	4D 18.6-19	).6 Mag			
3B	< 10	< 10	73	31	12		3B	MW-O	4D 18.6-19	).6 Nonmag			
Quality Contr 1A(R)	< 10	< 10	124	30	27		1A(R)	MW-O	6D 18.1-19	).1 Mag			
GSP-2-XRF GSP-2-known	101 105	24 27	522 550	204 245	29 28								

Initial\_\_\_\_ Date\_\_\_\_

Approx. Wt %

				7 (00.0)			
Mineral Name	Chemical Formula	MW-06D 18.1-19.1 Mag	MW-06D 18.1-19.1 Nonmag	MW-10D 6.5-7.5 Mag	MW-10D 6.5-7.5 Nonmag	MW-04D 18.6-19.6 Mag	MW-04D 18.6-19.6 Nonmag
Quartz	SiO <sub>2</sub>	18	45	23	40	20	46
Plagioclase feldspar	(Na,Ca)Al(Si,Al) <sub>3</sub> O <sub>8</sub>	42	34	33	36	38	36
K-feldspar	KAISi <sub>3</sub> O <sub>8</sub>	<5	<5	<5	<5	<3	<3
Clinoamphibole	$(Na,K)(Ca,Na)_2(Mg,Fe,Al)_5(Si,Al)_8O_{22}(OH,F)_2$	12	<3	15	<3	9	<3
Chlorite	(Mg,Fe,Al) <sub>6</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH) <sub>8</sub>	14	7	16	8	20	6
Mica/illite	(K,Na,Ca)(Al,Mg,Fe) <sub>2</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH,F) <sub>2</sub>	7	6	8	7	7	7
Pyrite	FeS <sub>2</sub>		_				_
Unidentified	?	<5	<5	<5	<5	<5	<5

Note Iron (Fe) substitutes for AI in feldspars.

ınıtıaı <sub>.</sub>	
Date	

Approx. Wt %

		I =			10A. W. 70		
Mineral Name	Chemical Formula	MW-04D 12.7-13.7	MW-06D 6.7-7.7	MW-06D 9.3-10	MW-06D 12-13	MW-05D 4.2-5.2	MW-05D 6.5-7.5
Quartz	SiO <sub>2</sub>	43	40	32	40	42	25
Plagioclase feldspar	(Na,Ca)Al(Si,Al) <sub>3</sub> O <sub>8</sub>	34	37	36	36	36	38
K-feldspar	KAISi <sub>3</sub> O <sub>8</sub>	<3	<3	<3	<3	<3	<3
Clinoamphibole	(Na,K)(Ca,Na) <sub>2</sub> (Mg,Fe,Al) <sub>5</sub> (Si,Al) <sub>8</sub> O <sub>22</sub> (OH,F) <sub>2</sub>	<3	<5	6	<3	<3	6
Chlorite	(Mg,Fe,Al) <sub>6</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH) <sub>8</sub>	9	8	14	9	8	16
Mica/illite	(K,Na,Ca)(Al,Mg,Fe) <sub>2</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH,F) <sub>2</sub>	7	8	7	7	7	9
Pyrite	FeS <sub>2</sub>		_	_	1-		<2
Unidentified	?	<5	<5	<5	<5	<5	<5

Note Iron (Fe) substitutes for AI in feldspars.

Initial <sub>.</sub>	 	
Date		

Approx. Wt %

Mineral Name	Chemical Formula	MW-05D 11.8-12.8	MW-04D 4.8-5.8	MW-04D 7.5-8.4	MW-03D* 21-22	MW-07D 6.1-7.1
Quartz	SiO <sub>2</sub>	37	37	32	37	37
Plagioclase feldspar	(Na,Ca)Al(Si,Al) <sub>3</sub> O <sub>8</sub>	38	36	35	38	39
K-feldspar	KAISi <sub>3</sub> O <sub>8</sub>	<3	<5	<3	<3	<b>&lt;</b> 5
Clinoamphibole	(Na,K)(Ca,Na) <sub>2</sub> (Mg,Fe,Al) <sub>5</sub> (Si,Al) <sub>8</sub> O <sub>22</sub> (OH,F) <sub>2</sub>	<5	<5	5	<5	<3
Chlorite	(Mg,Fe,Al) <sub>6</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH) <sub>8</sub>	10	9	13	9	10
Mica/illite	(K,Na,Ca)(Al,Mg,Fe) <sub>2</sub> (Si,Al) <sub>4</sub> O <sub>10</sub> (OH,F) <sub>2</sub>	9	8	9	9	7
Pyrite	FeS <sub>2</sub>		_	<1	_	II –
Unidentified	?	<5	<5	<5	<5	<5

Note Iron (Fe) substitutes for AI in feldspars.

\*This is the label typed on the sample list. The label on the sample container is "MW-03D 22-23."

Initial _	 	
Date		

18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

March 8, 2021

GSI Water Solutions Inc. ATTN: Randy Pratt 55 SW Yamhill St., Suite 300 Portland, OR 97204 rpratt@gsiws.com

RE: Project GSI-PR2001 Client Project: Everett As Speciation

Dear Mr. Randy Pratt

Brooks Applied Labs (BAL) received twenty-eight (28) soil samples on August 19, 2020 through August 21, 2020. The samples were received in acceptable condition in three coolers at temperatures of -0.1°C, -30°C, and -0.1°C. Sample 'MW-03D\_16-17' was received in a sampling bag with a puncture. BAL transferred this sample to a new Mylar bag after receipt. Per the chains-of-custody, all samples were placed on hold upon receipt.

On October 12, 2020, the client selected eleven (11) samples to be tested by BAL. These soil samples were removed from storage and logged in for %TS and total recoverable arsenic [As], iron [Fe], and manganese [Mn] analysis. Additionally, a five-step selective sequential extraction (SSE) method, based on *Wenzel et al.*, was employed for correlation between metals (arsenic [As] iron [Fe], and manganese [Mn]) and different substrate properties. These soil samples were also logged-in for arsenic speciation analyses, including arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], and dimethylarsinic acid [DMAs]. This report only contains the results for the eleven samples selected for these analyses.

These selected samples were also logged in for Batch Adsorption testing procedure as described in EPA's *Batch Type Procedures for Estimating Soil Adsorption of Chemicals* (EPA 530/SW-87/006-F, April 1992), and total recoverable Arsenic analysis via EPA 1638 mod. This portion of the project was logged in under BAL work order 2045005 and will be reported separately.

All samples were stored and prepped anoxically in an oxygen free glove box. All samples were received, prepared, analyzed, and stored according to BAL SOPs and EPA methodology.

#### **Total Solids Analysis**

#### Batch B203015

A known mass of each soil sample was placed into a pre-weighed pan, then the combined mass of the sample and pan was recorded. All samples were placed into a convection oven maintained at a temperature of 103°C-105°C. After drying for a minimum of 12 hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

#### Arsenic, Manganese, and Iron (EPA 6020B MOD) Quantitation by ICP-QQQ-MS

Total recoverable arsenic, manganese, and iron quantitation was performed by inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Prior to analysis a known mass of each sample was digested with aliquots of concentrated HNO<sub>3</sub>, HCl, and H<sub>2</sub>O<sub>2</sub> in a hot block apparatus, in accordance with a modified EPA Method 3050B.

#### Batch B203014

The total metals results were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values and MRL values are determined by MDL studies. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

In instances where a matrix spike/matrix spike duplicate (MS/MSD) set was spiked at a level less than the native sample concentration, the recoveries and the relative percent difference (RPD) are not considered valid indicators of data quality. In such instances, the recoveries of the laboratory fortified blanks (BS) and/or standard reference materials (SRM) demonstrate the accuracy of the applied methods. When the spiking level was less than 25% of the native sample concentration, the spike recovery was not reported (NR) and the relative percent difference (RPD) of the MS/MSD set was not calculated (N/C).

#### Arsenic, Manganese, and Iron (Five Step SSE (Wenzel et al.)) Quantitation by ICP-QQQ-MS

Metals quantitation [As, Mn, and Fe] was performed by inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Prior to the analyses, a sequential extraction method, based on *Wenzel et al.*, was employed. The applied extraction solutions are designed to target the different substrate components. The following table provides details on the various fractions in the Five Step SSE (*Wenzel et al.*).

#### Five Step SSE (Wenzel et al.)

SSE Extraction Step	Analyte Code	Extraction Liquid Identity	Volume Extraction Liquid (mL)	Target Fraction/Substrate Description
1	xx(WEN1)	0.05 M (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	25	Non-specifically adsorbed metals
2	xx(WEN2)	0.05 M (NH <sub>4</sub> )H <sub>2</sub> PO <sub>4</sub>	25	Specifically-sorbed metals
3	xx(WEN3)	0.2M ammonium oxalate buffer (pH=3.25)	25	Amorphous metal oxyhydroxides

4	xx(WEN4)	0.2M ammonium oxalate buffer + 0.1M Ascorbic Acid	25	Crystalline metal oxyhydroxides
5	xx(WEN5)	concentrated HNO <sub>3</sub> , H <sub>2</sub> O <sub>2</sub> , and HCI	50	Residual, Total Recoverable

Approximately 1g of each soil sample was transferred to a 50mL polypropylene vial and 25mL of 0.05 M (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> was added to each vial. Each vial was capped and shaken on an inverting shaker for 4 hours at room temperature at 30 RPM.

The samples were removed from the shaker and centrifuged for 20 minutes at 3000RPM. After the supernatant was decanted into a separate vial for trace metals analysis and labeled "WEN1," a total of 20mL of reagent water was added to each vial. The vials were shaken vigorously and centrifuged for 20 minutes at 3000RPM. The reagent water rinse was decanted and discarded.

Exactly 25mL of 0.05 M NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> was added to each vial. Each vial was capped and shaken on an inverting shaker for 16 hours at room temperature at 30 RPM.

The samples were removed from the shaker and centrifuged for 20 minutes at 3000RPM. After the supernatant was decanted into a separate vial for trace metals analysis and labeled "WEN2," a total of 20mL of reagent water was added to each vial. The vials were shaken vigorously and centrifuged for 20 minutes at 3000RPM. The supernatant was decanted and discarded.

All sample vials were wrapped in aluminum foil to prevent photo-oxidation and exactly 25mL of 0.2M ammonium oxalate buffer (pH=3.25) was added to each vial. Each vial was capped and shaken on an inverting shaker for 4 hours at room temperature at 30 RPM.

The samples were removed from the shaker and centrifuged for 20 minutes at 3000RPM. After the supernatant was decanted into a separate vial for trace metals analysis and labeled "WEN3," a total of 12.5mL of ammonium oxalate buffer was added to each vial. The vials were shaken vigorously and centrifuged for 20 minutes at 3000RPM. The supernatant was decanted and discarded.

Exactly 25mL of 0.2M ammonium oxalate buffer with 0.1M ascorbic acid was added to each vial. The vials were then placed in a hotblock digestion apparatus at 96°C for 30 minutes.

The samples were removed from the shaker and centrifuged for 20 minutes at 3000RPM. After the supernatant was decanted into a separate vial for trace metals analysis and labeled "WEN4," a total of 12.5mL of 0.2M ammonium oxalate buffer with 0.1M ascorbic acid was added to each vial. The vials were shaken vigorously and centrifuged for 20 minutes at 3000RPM. The supernatant was decanted and discarded.

The residual solid pellets remaining in the vials were then digested via with aliquots of concentrated HNO<sub>3</sub>, HCl, and H<sub>2</sub>O<sub>2</sub> (in accordance with a modified EPA Method 3050B). The resulting digests were labeled "WEN5".

All samples were stored and prepped anoxically in an oxygen free glove box. Degassed reagent water was used to prepare extraction solutions for each step, except for step 5 (i.e. residual metals fractions). For each fraction requiring an inverting rotator, the tumbling step took place in an anoxic environment (glovebox).

Total recoverable metals quantitation on individual fractions was performed was performed by inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the *Interference Reduction Technology* section on our website, <u>brooksapplied.com</u>.

#### Batch B203009 (WEN1 analyses)

The duplicate (DUP) B203009-DUP2 performed on sample *MW-05D\_6.5-7.5* (2034075-08) had a relative percent difference (RPD) for As above the acceptance limit (103%). The As result for *MW-05D\_6.5-7.5* (2034075-08) was qualified **M** for duplicate imprecision.

The duplicate (DUP) B203009-DUP1 performed on sample  $MW-06D\_6.7-7.7$  (2034075-03) had a relative percent difference (RPD) for Fe above the acceptance limit (42%). The Fe result for  $MW-06D\_6.7-7.7$  (2034075-03) was qualified **M** for duplicate imprecision.

The duplicate (DUP) B203009-DUP2 performed on sample *MW-05D\_6.5-7.5* (2034075-08) had a relative percent difference (RPD) for Fe above the acceptance limit (31%). The Fe result for *MW-05D\_6.5-7.5* (2034075-08) was qualified **M** for duplicate imprecision.

Samples 2034075-03 and 2034075-08 and their associated failing batch QC duplicates were reanalyzed for confirmation in sequence 2001388. All results confirm, and the reported results were from the original analysis in sequence 2001378.

The metals results (Five Step SSE (Wenzel)) were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values have been calculated using the standard deviation of the method blanks prepared and analyzed concurrently with the submitted samples. The MRL is set by the value of a low calibration standard in the calibration. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

#### Batch B203010 (WEN2 analyses)

The duplicate (DUP) B203010-DUP2 performed on sample *MW-05D\_6.5-7.5* (2034075-08) had a relative percent difference (RPD) for As above the acceptance limit (92%). The As result for *MW-05D\_6.5-7.5* (2034075-08) was qualified **M** for duplicate imprecision.

The metals results (Five Step SSE (Wenzel)) were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values have been calculated using the standard deviation of the method blanks prepared and analyzed concurrently with the submitted samples. The MRL is set by the value of a low calibration standard in the calibration. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

#### Batch B203011 (WEN3 analyses)

The duplicate (DUP) B203011-DUP2 performed on sample *MW-05D\_6.5-7.5* (2034075-08) had a relative percent difference (RPD) for As above the acceptance limit (51%). The As result for *MW-05D\_6.5-7.5* (2034075-08) was qualified **M** for duplicate imprecision.

Sample 2034075-08 and its associated failing batch QC duplicate was reanalyzed for As for confirmation in sequence 2001430. All results confirm, and the reported results were from the original analysis in sequence 2001419.

The post spikes B203011-PS1 and B203011-PS2 were performed on sample *MW-06D\_6.7-7.7* (2034075-03). The post spikes B203011-PS3 and B203011-PS4 were performed on sample *MW-05D\_6.5-7.5* (2034075-08). These post spikes all had failing recoveries for Fe. These post spikes were all spiked at a level less than the native sample concentration, and the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

The metals results (Five Step SSE (Wenzel)) were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values have been calculated using the standard deviation of the method blanks prepared and analyzed concurrently with the submitted samples. The MRL is set by the value of a low calibration standard in the calibration. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

#### Batch B203012 (WEN4 analyses)

The post spikes B203012-PS1 and B203012-PS2 were performed on sample *MW-06D\_6.7-7.7* (2034075-03). The post spikes B203012-PS3 and B203012-PS4 were performed on sample *MW-05D\_6.5-7.5* (2034075-08). These post spikes all had failing recoveries for Fe. These post spikes were all spiked at a level less than the native sample concentration, and the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

The metals results (Five Step SSE (Wenzel)) were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values have been calculated using the standard deviation of the method blanks prepared and analyzed concurrently with the submitted samples. The MRL is set by the value of a low calibration standard in the calibration. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

#### Batch B203013 (WEN5 analyses)

All samples and their associated batch QC were outside the calibration curve for Fe in the original analysis. These samples and batch QC were reanalyzed in sequence 2001437 at a higher dilution. All results confirm and the results are reported from the reanalysis in sequence 2001437.

Samples 2034075-05, 2034075-07, 2034075-09, 2034075-11, 2034075-16, and 2034075-21 were all reanalyzed for Mn in sequence 2001437 as the original results were either outside the calibration curve or there was suspected carry-over from the previous sample. The reanalysis confirmed all results, and the results are reported from the reanalysis in sequence 2001437.

The post spikes B203013-PS5 and B203013-PS6 were performed on sample *MW-06D\_6.7-7.7* (2034075-03). The post spikes B203013-PS7 and B203013-PS8 were performed on sample *MW-05D\_6.5-7.5* (2034075-08). These post spikes all had failing recoveries for Fe. These post spikes were all spiked at a level less than the native sample concentration, and the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

The post spikes B203013-PS1 and B203013-PS2 were performed on sample *MW-06D\_6.7-7.7* (2034075-03). The post spikes B203013-PS3 and B203013-PS4 were performed on sample *MW-05D\_6.5-7.5* (2034075-08). With the exception of B203013-PS1, these post spikes had a failing recoveries for Mn. These post spikes were all spiked at a level less than the native sample concentration, and the recoveries are not considered valid indicators of data quality. However, these results are reported as a demonstration of precision.

The metals results (Five Step SSE (Wenzel)) were *not* method blank corrected as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values have been calculated using the standard deviation of the method blanks prepared and analyzed concurrently with the submitted samples. The MRL is set by the value of a low calibration standard in the calibration. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

### Arsenic Speciation

Arsenic speciation analysis was performed by ion chromatography coupled to an inductively coupled plasma collision reaction cell mass spectrometer (IC-ICP-CRC-MS). The IC-ICP-CRC-MS uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

The extraction targets adsorbed arsenicals in the soils. The extraction cannot liberate species entrained or encapsulated in crystalline structures within the soil. As such there may be poor mass balance when compared to total arsenic measurements.

#### As Speciation Analysis by IC-ICP-CRC-MS

Approximately 1.0g of each sample was transferred to a 50mL polypropylene centrifuge tube. A known volume of a  $H_3PO_4$  solution was then added to each sample. All extractions were placed on an inverting

shaker set at 80 RPM for approximately 16 hours. The extracts were then centrifuged, and the supernatant was decanted, filtered with a syringe filter (0.45µm).

#### Batch B203067

The arsenic speciation results were *not* method blank corrected as described in the calculations section of the relevant BAL SOP(s) and were evaluated using reporting limits adjusted to account for sample aliquot size. The MDL values for arsenite are generated using from replicate analyses of the lowest standard in the calibration curve. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

There were two different standards used when prepping batch B203067. The batch QC samples B203067-BS1, B203067-MS1/MSD1, and B203067-MS3/MSD3 were only spiked with the As(V) standard. The batch QC samples B203067-BS2, B203067-MS2/MSD2, and B203067-MS4/MSD4 were all spiked with the As(III), DMA, and MMA standard.

The low recoveries demonstrated in B203067-MS2/B203067-MSD2 suggest that the sample matrix induces species conversion of As(III) to As(V). The Mass Balance was evaluated with recoveries of 99% and 103% respectively. The As (III) results for the source sample *MW-04D\_12.7-13.7* (2034075-01) were qualified **N** for potential low bias.

The duplicate (DUP) B203067-DUP2 performed on *MW-04D\_7.5-8.4* (2034075-12) had a relative percent difference (RPD) for As(III) above the acceptance limit (27%). The As(III) result for *MW-04D\_7.5-8.4* (2034075-12) was qualified **M** for duplicate imprecision.

The matrix spike (MS) B203067-MS3 and matrix spike duplicate (MSD) B203067-MSD3 performed on *MW-04D\_7.5-8.4* (2034075-12) had a recovery below the acceptance limit for As(V). The Mass Balance was evaluated with recoveries of 46% and 62% respectively, and there was no evidence of conversion. The As(V) results for *MW-04D\_7.5-8.4* (2034075-12) was qualified **N** for low bias.

The matrix spike set B203067-MS4/B203067-MSD4 also had low recoveries for As(III). The Mass Balance was evaluated with recoveries of 61% and 56% respectively. These MS/MSD failures may be due to conversion of As(III) to unknow As species seen at the retention time of 3.5 and 9.2. The As (III) results for the source sample *MW-04D* 7.5-8.4 (2034075-12) were qualified **N** for potential low bias.

The matrix spike (MS) B203067-MS4 and matrix spike duplicate (MSD) B203067-MSD4 performed on *MW-04D\_7.5-8.4* (2034075-12) had a recovery below the acceptance limit for DMA and MMA. The DMA and MMA results for *MW-04D\_7.5-8.4* (2034075-12) were qualified **N** for low bias.

Sample MW-04D\_7.5-8.4 (2034075-12) and its associated batch QC were all reanalyzed due to the QC failures. All reanalysis confirm the original results. The results for this sample and its batch QC were all reported from the original analysis.

Possible thioarsenicals were present in samples 2034075-01, 2034075-05, 2034075-07, 2034075 -09, 2034075-11, 2034075-12, and 2034075-21, but co-elution is not significantly affecting As(V) integration or recovery.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

All data were reported without qualification (aside from concentration qualifiers) and all associated quality control sample results met the acceptance criteria. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report.

Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Amy Goodall

Project Manager Brooks Applied Labs

Amy@brooksapplied.com

BAL Report 2034075

Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)



### Report Information

#### **Laboratory Accreditation**

BAL is accredited by the National Environmental Laboratory Accreditation Program (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <a href="http://www.brooksapplied.com/resources/certificates-permits/">http://www.brooksapplied.com/resources/certificates-permits/</a> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

#### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

#### **Common Abbreviations**

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	Т	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRI	method reporting limit		

#### **Definition of Data Qualifiers**

(Effective 3/23/2020)

- An estimated value due to the presence of interferences. A full explanation is presented in the narrative. Ε
- Н Holding time and/or preservation requirements not met. Please see narrative for explanation.
- Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
- Estimated value. A full explanation is presented in the narrative. J-1

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- Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation. М
- Spike recovery was not within acceptance criteria. Please see narrative for explanation.
- R Rejected, unusable value. A full explanation is presented in the narrative.
- Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL. u
- Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. X Result is estimated.
- Z Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the <u>USEPA Contract Laboratory Program National Functional Guidelines for Inorganic</u> Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

PM: Amy Goodall



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## **Accreditation Information**

#### Table 1. Accredited method/matrix/analytes for TNI

Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)
Issued on: July 27, 2020; Valid to: June 30, 2021

**Certificate Number: E87982-35** 

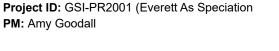
Method	Matrix	TNI Accredited Analyte(s)				
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn				
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn				
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn				
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn				
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness				
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn				
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn				
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn				
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury				
EPA 1630	Non-Potable Waters	Methyl Mercury				
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury				
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs				
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)				
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)				
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)				
SM2340B	Non-Potable Waters	Hardness				

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Client Project: GSI-PR2001 (Everett As

Speciation)





## **Accreditation Information**

Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes		
EPA 1638 Mod  EPA 200.8 Mod  EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn		
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn Hg (Biological Only)	Not Accredited		
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Tl, V (ISO Only)	Not Accredited		
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury		
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)		
EPA 1632A Mod	Non-Potable Waters	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited		
BAL-3300	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	Not Accredited		
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited		
	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited		
BAL-4100	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited		
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited		
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited		
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)		
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited		
SM2340B	Non-Potable Waters	Hardness	Hardness		
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight		

<sup>(1)</sup> ISO/IEC 17025:2017 - Certificate Number ADE-1447.2

<sup>(2)</sup> Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

<sup>(3)</sup> Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

# Sample Information

Sample	Lab ID	Report Matrix	Туре	Sampled	Received
MW-04D_12.7-13.7	2034075-01	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_18.6-19.6	2034075-02	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-06D_6.7-7.7	2034075-03	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3-10	2034075-04	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12-13	2034075-05	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_18.1-19.1	2034075-06	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-05D_4.5-5.2	2034075-07	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5-7.5	2034075-08	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_11.8-12.8	2034075-09	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_18.8-19.8	2034075-10	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8-5.8	2034075-11	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5-8.4	2034075-12	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-02D_16-17	2034075-13	Soil/Sediment	Sample	08/17/2020	08/21/2020
MW-02D_21-22	2034075-14	Soil/Sediment	Sample	08/17/2020	08/21/2020
MW-03D_16-17	2034075-15	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-03D_22-23	2034075-16	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-01D_7.1-8.1	2034075-17	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-01D_12-13	2034075-18	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-01D_16.5-17.5	2034075-19	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-01D_22.5-23.5	2034075-20	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-07D_6.1-7.1	2034075-21	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_11-12	2034075-22	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_15.5-16.5	2034075-23	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_21.5-22.5	2034075-24	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-10D_6.5-7.5	2034075-25	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-10D_13.5-14.5	2034075-26	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-10D_18.9-19.9	2034075-27	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-10D_27.5-28.5	2034075-28	Soil/Sediment	Sample	08/21/2020	08/21/2020

PM: Amy Goodall



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# **Batch Summary**

Analyte	Lab Matrix	Method	Prepared	<b>Analyzed</b>	Batch	Sequence
%TS	Soil/Sediment	SOP BAL-0501	11/17/2020	11/18/2020	B203015	N/A
As	Soil/Sediment	EPA 6020B Mod	11/17/2020	11/18/2020	B203014	2001378
As(III)	Soil/Sediment	SOP BAL-4100	12/02/2020	12/03/2020	B203067	2001428
As(V)	Soil/Sediment	SOP BAL-4100	12/02/2020	12/03/2020	B203067	2001428
As(WEN1)	Soil/Sediment	In-House	11/17/2020	11/18/2020	B203009	2001378
As(WEN2)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203010	2001388
As(WEN3)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203011	2001419
As(WEN4)	Soil/Sediment	In-House	11/17/2020	12/02/2020	B203012	2001430
As(WEN5)	Soil/Sediment	In-House	11/17/2020	12/02/2020	B203013	2001430
DMAs	Soil/Sediment	SOP BAL-4100	12/02/2020	12/03/2020	B203067	2001428
Fe	Soil/Sediment	EPA 6020B Mod	11/17/2020	11/18/2020	B203014	2001378
Fe(WEN1)	Soil/Sediment	In-House	11/17/2020	11/18/2020	B203009	2001378
Fe(WEN2)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203010	2001388
Fe(WEN3)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203011	2001419
Fe(WEN4)	Soil/Sediment	In-House	11/17/2020	12/02/2020	B203012	2001430
Fe(WEN5)	Soil/Sediment	In-House	11/17/2020	12/03/2020	B203013	2001437
MMAs	Soil/Sediment	SOP BAL-4100	12/02/2020	12/03/2020	B203067	2001428
Mn	Soil/Sediment	EPA 6020B Mod	11/17/2020	11/18/2020	B203014	2001378
Mn(WEN1)	Soil/Sediment	In-House	11/17/2020	11/18/2020	B203009	2001378
Mn(WEN2)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203010	2001388
Mn(WEN3)	Soil/Sediment	In-House	11/17/2020	11/20/2020	B203011	2001419
Mn(WEN4)	Soil/Sediment	In-House	11/17/2020	12/02/2020	B203012	2001430
Mn(WEN5)	Soil/Sediment	In-House	11/17/2020	12/02/2020	B203013	2001430
Mn(WEN5)	Soil/Sediment	In-House	11/17/2020	12/03/2020	B203013	2001437

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

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# Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-04D_12.7-13.7										
2034075-01	%TS	Soil/Sediment	NA	87.16		0.002	0.006	%	B203015	N/A
2034075-01	As	Soil/Sediment	dry	14.9		0.050	0.116	mg/kg	B203014	2001378
2034075-01	As(III)	Soil/Sediment	dry	2.00	Ν	0.002	0.012	mg/kg	B203067	2001428
2034075-01	As(V)	Soil/Sediment	dry	1.56		0.002	0.011	mg/kg	B203067	2001428
2034075-01	As(WEN1)	Soil/Sediment	dry	0.262		0.004	0.027	mg/kg	B203009	2001378
2034075-01	As(WEN2)	Soil/Sediment	dry	0.592		0.005	0.027	mg/kg	B203010	2001388
2034075-01	As(WEN3)	Soil/Sediment	dry	2.26		0.004	0.027	mg/kg	B203011	2001419
2034075-01	As(WEN4)	Soil/Sediment	dry	0.477		0.010	0.020	mg/kg	B203012	2001430
2034075-01	As(WEN5)	Soil/Sediment	dry	8.94		0.008	0.016	mg/kg	B203013	2001430
2034075-01	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-01	Fe	Soil/Sediment	dry	19300		3.43	7.20	mg/kg	B203014	2001378
2034075-01	Fe(WEN1)	Soil/Sediment	dry	116		0.121	0.270	mg/kg	B203009	2001378
2034075-01	Fe(WEN2)	Soil/Sediment	dry	256		0.539	1.08	mg/kg	B203010	2001388
2034075-01	Fe(WEN3)	Soil/Sediment	dry	1700		1.02	2.05	mg/kg	B203011	2001419
2034075-01	Fe(WEN4)	Soil/Sediment	dry	497		2.21	4.42	mg/kg	B203012	2001430
2034075-01	Fe(WEN5)	Soil/Sediment	dry	18200		11.9	23.7	mg/kg	B203013	2001437
2034075-01	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-01	Mn	Soil/Sediment	dry	287		0.078	0.166	mg/kg	B203014	2001378
2034075-01	Mn(WEN1)	Soil/Sediment	dry	2.70		0.073	0.146	mg/kg	B203009	2001378
2034075-01	Mn(WEN2)	Soil/Sediment	dry	1.93		0.089	0.178	mg/kg	B203010	2001388
2034075-01	Mn(WEN3)	Soil/Sediment	dry	4.98		0.431	0.863	mg/kg	B203011	2001419
2034075-01	Mn(WEN4)	Soil/Sediment	dry	4.54		0.404	0.809	mg/kg	B203012	2001430
2034075-01	Mn(WEN5)	Soil/Sediment	dry	266		0.024	0.047	mg/kg	B203013	2001430

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Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-06D_6.7-7.	7									
2034075-03	%TS	Soil/Sediment	NA	82.85		0.004	0.01	%	B203015	N/A
2034075-03	As	Soil/Sediment	dry	6.28		0.054	0.126	mg/kg	B203014	2001378
2034075-03	As(III)	Soil/Sediment	dry	0.544		0.003	0.013	mg/kg	B203067	2001428
2034075-03	As(V)	Soil/Sediment	dry	2.39		0.002	0.012	mg/kg	B203067	2001428
2034075-03	As(WEN1)	Soil/Sediment	dry	0.183		0.004	0.028	mg/kg	B203009	2001378
2034075-03	As(WEN2)	Soil/Sediment	dry	0.426		0.005	0.028	mg/kg	B203010	2001388
2034075-03	As(WEN3)	Soil/Sediment	dry	0.942		0.004	0.028	mg/kg	B203011	2001419
2034075-03	As(WEN4)	Soil/Sediment	dry	0.499		0.011	0.022	mg/kg	B203012	2001430
2034075-03	As(WEN5)	Soil/Sediment	dry	4.01		0.009	0.017	mg/kg	B203013	2001430
2034075-03	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.012	mg/kg	B203067	2001428
2034075-03	Fe	Soil/Sediment	dry	17700		3.73	7.83	mg/kg	B203014	2001378
2034075-03	Fe(WEN1)	Soil/Sediment	dry	3.51	M	0.128	0.284	mg/kg	B203009	2001378
2034075-03	Fe(WEN2)	Soil/Sediment	dry	4.24		0.569	1.14	mg/kg	B203010	2001388
2034075-03	Fe(WEN3)	Soil/Sediment	dry	522		1.08	2.16	mg/kg	B203011	2001419
2034075-03	Fe(WEN4)	Soil/Sediment	dry	827		2.33	4.66	mg/kg	B203012	2001430
2034075-03	Fe(WEN5)	Soil/Sediment	dry	15800		12.5	25.0	mg/kg	B203013	2001437
2034075-03	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.012	mg/kg	B203067	2001428
2034075-03	Mn	Soil/Sediment	dry	245		0.084	0.181	mg/kg	B203014	2001378
2034075-03	Mn(WEN1)	Soil/Sediment	dry	1.48		0.077	0.154	mg/kg	B203009	2001378
2034075-03	Mn(WEN2)	Soil/Sediment	dry	0.772		0.094	0.188	mg/kg	B203010	2001388
2034075-03	Mn(WEN3)	Soil/Sediment	dry	2.49		0.455	0.910	mg/kg	B203011	2001419
2034075-03	Mn(WEN4)	Soil/Sediment	dry	4.47		0.427	0.853	mg/kg	B203012	2001430
2034075-03	Mn(WEN5)	Soil/Sediment	dry	231		0.025	0.050	mg/kg	B203013	2001430

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Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-06D_9.3-10										
2034075-04	%TS	Soil/Sediment	NA	68.94		0.003	0.009	%	B203015	N/A
2034075-04	As	Soil/Sediment	dry	17.2		0.069	0.161	mg/kg	B203014	2001378
2034075-04	As(III)	Soil/Sediment	dry	0.793		0.003	0.016	mg/kg	B203067	2001428
2034075-04	As(V)	Soil/Sediment	dry	2.57		0.003	0.015	mg/kg	B203067	2001428
2034075-04	As(WEN1)	Soil/Sediment	dry	0.779		0.005	0.035	mg/kg	B203009	2001378
2034075-04	As(WEN2)	Soil/Sediment	dry	1.75		0.006	0.035	mg/kg	B203010	2001388
2034075-04	As(WEN3)	Soil/Sediment	dry	1.28		0.004	0.035	mg/kg	B203011	2001419
2034075-04	As(WEN4)	Soil/Sediment	dry	0.189		0.013	0.026	mg/kg	B203012	2001430
2034075-04	As(WEN5)	Soil/Sediment	dry	10.1		0.010	0.021	mg/kg	B203013	2001430
2034075-04	DMAs	Soil/Sediment	dry	≤ 0.003	U	0.003	0.015	mg/kg	B203067	2001428
2034075-04	Fe	Soil/Sediment	dry	28200		4.76	9.98	mg/kg	B203014	2001378
2034075-04	Fe(WEN1)	Soil/Sediment	dry	11.2		0.156	0.346	mg/kg	B203009	2001378
2034075-04	Fe(WEN2)	Soil/Sediment	dry	86.3		0.692	1.38	mg/kg	B203010	2001388
2034075-04	Fe(WEN3)	Soil/Sediment	dry	1630		1.31	2.63	mg/kg	B203011	2001419
2034075-04	Fe(WEN4)	Soil/Sediment	dry	1780		2.84	5.67	mg/kg	B203012	2001430
2034075-04	Fe(WEN5)	Soil/Sediment	dry	25700		15.2	30.5	mg/kg	B203013	2001437
2034075-04	MMAs	Soil/Sediment	dry	0.011	J	0.003	0.015	mg/kg	B203067	2001428
2034075-04	Mn	Soil/Sediment	dry	345		0.107	0.230	mg/kg	B203014	2001378
2034075-04	Mn(WEN1)	Soil/Sediment	dry	12.6		0.093	0.187	mg/kg	B203009	2001378
2034075-04	Mn(WEN2)	Soil/Sediment	dry	6.70		0.114	0.228	mg/kg	B203010	2001388
2034075-04	Mn(WEN3)	Soil/Sediment	dry	13.9		0.554	1.11	mg/kg	B203011	2001419
2034075-04	Mn(WEN4)	Soil/Sediment	dry	15.8		0.519	1.04	mg/kg	B203012	2001430
2034075-04	Mn(WEN5)	Soil/Sediment	dry	296		0.030	0.061	mg/kg	B203013	2001430

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Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-06D_12-13										
2034075-05	%TS	Soil/Sediment	NA	84.91		0.002	0.008	%	B203015	N/A
2034075-05	As	Soil/Sediment	dry	6.87		0.054	0.126	mg/kg	B203014	2001378
2034075-05	As(III)	Soil/Sediment	dry	0.580		0.002	0.012	mg/kg	B203067	2001428
2034075-05	As(V)	Soil/Sediment	dry	0.781		0.002	0.011	mg/kg	B203067	2001428
2034075-05	As(WEN1)	Soil/Sediment	dry	0.075		0.003	0.022	mg/kg	B203009	2001378
2034075-05	As(WEN2)	Soil/Sediment	dry	0.154		0.004	0.022	mg/kg	B203010	2001388
2034075-05	As(WEN3)	Soil/Sediment	dry	0.598		0.003	0.022	mg/kg	B203011	2001419
2034075-05	As(WEN4)	Soil/Sediment	dry	0.169		0.009	0.017	mg/kg	B203012	2001430
2034075-05	As(WEN5)	Soil/Sediment	dry	4.87		0.007	0.013	mg/kg	B203013	2001430
2034075-05	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-05	Fe	Soil/Sediment	dry	22800		3.72	7.81	mg/kg	B203014	2001378
2034075-05	Fe(WEN1)	Soil/Sediment	dry	89.1		0.101	0.225	mg/kg	B203009	2001378
2034075-05	Fe(WEN2)	Soil/Sediment	dry	229		0.449	0.898	mg/kg	B203010	2001388
2034075-05	Fe(WEN3)	Soil/Sediment	dry	1270		0.853	1.71	mg/kg	B203011	2001419
2034075-05	Fe(WEN4)	Soil/Sediment	dry	513		1.84	3.68	mg/kg	B203012	2001430
2034075-05	Fe(WEN5)	Soil/Sediment	dry	18800		9.88	19.8	mg/kg	B203013	2001437
2034075-05	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-05	Mn	Soil/Sediment	dry	330		0.084	0.180	mg/kg	B203014	2001378
2034075-05	Mn(WEN1)	Soil/Sediment	dry	3.27		0.061	0.121	mg/kg	B203009	2001378
2034075-05	Mn(WEN2)	Soil/Sediment	dry	2.14		0.074	0.148	mg/kg	B203010	2001388
2034075-05	Mn(WEN3)	Soil/Sediment	dry	4.15		0.359	0.719	mg/kg	B203011	2001419
2034075-05	Mn(WEN4)	Soil/Sediment	dry	4.65		0.337	0.674	mg/kg	B203012	2001430
2034075-05	Mn(WEN5)	Soil/Sediment	dry	272		0.079	0.158	mg/kg	B203013	2001437

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Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-05D_4.5-5.	2									
2034075-07	%TS	Soil/Sediment	NA	92.07		0.002	0.007	%	B203015	N/A
2034075-07	As	Soil/Sediment	dry	103		0.050	0.116	mg/kg	B203014	2001378
2034075-07	As(III)	Soil/Sediment	dry	10.1		0.002	0.012	mg/kg	B203067	2001428
2034075-07	As(V)	Soil/Sediment	dry	53.3		0.002	0.011	mg/kg	B203067	2001428
2034075-07	As(WEN1)	Soil/Sediment	dry	0.257		0.004	0.024	mg/kg	B203009	2001378
2034075-07	As(WEN2)	Soil/Sediment	dry	9.56		0.004	0.024	mg/kg	B203010	2001388
2034075-07	As(WEN3)	Soil/Sediment	dry	55.4		0.003	0.024	mg/kg	B203011	2001419
2034075-07	As(WEN4)	Soil/Sediment	dry	5.76		0.009	0.018	mg/kg	B203012	2001430
2034075-07	As(WEN5)	Soil/Sediment	dry	18.9		0.007	0.015	mg/kg	B203013	2001430
2034075-07	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-07	Fe	Soil/Sediment	dry	27700		3.41	7.16	mg/kg	B203014	2001378
2034075-07	Fe(WEN1)	Soil/Sediment	dry	2.67		0.109	0.243	mg/kg	B203009	2001378
2034075-07	Fe(WEN2)	Soil/Sediment	dry	5.06		0.486	0.971	mg/kg	B203010	2001388
2034075-07	Fe(WEN3)	Soil/Sediment	dry	2300		0.923	1.85	mg/kg	B203011	2001419
2034075-07	Fe(WEN4)	Soil/Sediment	dry	985		1.99	3.98	mg/kg	B203012	2001430
2034075-07	Fe(WEN5)	Soil/Sediment	dry	17900		10.7	21.4	mg/kg	B203013	2001437
2034075-07	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-07	Mn	Soil/Sediment	dry	371		0.077	0.165	mg/kg	B203014	2001378
2034075-07	Mn(WEN1)	Soil/Sediment	dry	3.52		0.066	0.131	mg/kg	B203009	2001378
2034075-07	Mn(WEN2)	Soil/Sediment	dry	2.31		0.080	0.160	mg/kg	B203010	2001388
2034075-07	Mn(WEN3)	Soil/Sediment	dry	9.33		0.389	0.777	mg/kg	B203011	2001419
2034075-07	Mn(WEN4)	Soil/Sediment	dry	5.12		0.364	0.729	mg/kg	B203012	2001430
2034075-07	Mn(WEN5)	Soil/Sediment	dry	244		0.085	0.171	mg/kg	B203013	2001437

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Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-05D_6.5-7.	5									
2034075-08	%TS	Soil/Sediment	NA	61.18		0.01	0.04	%	B203015	N/A
2034075-08	As	Soil/Sediment	dry	14.0		0.076	0.178	mg/kg	B203014	2001378
2034075-08	As(III)	Soil/Sediment	dry	1.04		0.004	0.019	mg/kg	B203067	2001428
2034075-08	As(V)	Soil/Sediment	dry	1.88		0.004	0.018	mg/kg	B203067	2001428
2034075-08	As(WEN1)	Soil/Sediment	dry	0.955	M	0.006	0.037	mg/kg	B203009	2001378
2034075-08	As(WEN2)	Soil/Sediment	dry	1.29	M	0.006	0.037	mg/kg	B203010	2001388
2034075-08	As(WEN3)	Soil/Sediment	dry	1.04	M	0.005	0.037	mg/kg	B203011	2001419
2034075-08	As(WEN4)	Soil/Sediment	dry	0.214		0.014	0.028	mg/kg	B203012	2001430
2034075-08	As(WEN5)	Soil/Sediment	dry	9.74		0.011	0.022	mg/kg	B203013	2001430
2034075-08	DMAs	Soil/Sediment	dry	≤ 0.004	U	0.004	0.018	mg/kg	B203067	2001428
2034075-08	Fe	Soil/Sediment	dry	29200		5.25	11.0	mg/kg	B203014	2001378
2034075-08	Fe(WEN1)	Soil/Sediment	dry	20.2	M	0.168	0.374	mg/kg	B203009	2001378
2034075-08	Fe(WEN2)	Soil/Sediment	dry	144		0.747	1.49	mg/kg	B203010	2001388
2034075-08	Fe(WEN3)	Soil/Sediment	dry	1900		1.42	2.84	mg/kg	B203011	2001419
2034075-08	Fe(WEN4)	Soil/Sediment	dry	1910		3.06	6.13	mg/kg	B203012	2001430
2034075-08	Fe(WEN5)	Soil/Sediment	dry	25200		16.4	32.9	mg/kg	B203013	2001437
2034075-08	MMAs	Soil/Sediment	dry	0.009	J	0.004	0.018	mg/kg	B203067	2001428
2034075-08	Mn	Soil/Sediment	dry	338		0.118	0.254	mg/kg	B203014	2001378
2034075-08	Mn(WEN1)	Soil/Sediment	dry	2.25		0.101	0.202	mg/kg	B203009	2001378
2034075-08	Mn(WEN2)	Soil/Sediment	dry	2.17		0.123	0.247	mg/kg	B203010	2001388
2034075-08	Mn(WEN3)	Soil/Sediment	dry	9.16		0.598	1.20	mg/kg	B203011	2001419
2034075-08	Mn(WEN4)	Soil/Sediment	dry	14.6		0.560	1.12	mg/kg	B203012	2001430
2034075-08	Mn(WEN5)	Soil/Sediment	dry	320		0.033	0.066	mg/kg	B203013	2001430

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-05D_11.8-	12.8									
2034075-09	%TS	Soil/Sediment	NA	84.76		0.002	0.007	%	B203015	N/A
2034075-09	As	Soil/Sediment	dry	9.89		0.051	0.119	mg/kg	B203014	2001378
2034075-09	As(III)	Soil/Sediment	dry	1.05		0.002	0.011	mg/kg	B203067	2001428
2034075-09	As(V)	Soil/Sediment	dry	0.947		0.002	0.010	mg/kg	B203067	2001428
2034075-09	As(WEN1)	Soil/Sediment	dry	0.173		0.003	0.023	mg/kg	B203009	2001378
2034075-09	As(WEN2)	Soil/Sediment	dry	0.440		0.004	0.023	mg/kg	B203010	2001388
2034075-09	As(WEN3)	Soil/Sediment	dry	0.999		0.003	0.023	mg/kg	B203011	2001419
2034075-09	As(WEN4)	Soil/Sediment	dry	0.386		0.009	0.018	mg/kg	B203012	2001430
2034075-09	As(WEN5)	Soil/Sediment	dry	8.34		0.007	0.014	mg/kg	B203013	2001430
2034075-09	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.010	mg/kg	B203067	2001428
2034075-09	Fe	Soil/Sediment	dry	20100		3.50	7.34	mg/kg	B203014	2001378
2034075-09	Fe(WEN1)	Soil/Sediment	dry	64.4		0.105	0.233	mg/kg	B203009	2001378
2034075-09	Fe(WEN2)	Soil/Sediment	dry	205		0.465	0.930	mg/kg	B203010	2001388
2034075-09	Fe(WEN3)	Soil/Sediment	dry	1360		0.884	1.77	mg/kg	B203011	2001419
2034075-09	Fe(WEN4)	Soil/Sediment	dry	495		1.91	3.81	mg/kg	B203012	2001430
2034075-09	Fe(WEN5)	Soil/Sediment	dry	22200		10.2	20.5	mg/kg	B203013	2001437
2034075-09	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.010	mg/kg	B203067	2001428
2034075-09	Mn	Soil/Sediment	dry	275		0.079	0.169	mg/kg	B203014	2001378
2034075-09	Mn(WEN1)	Soil/Sediment	dry	6.65		0.063	0.126	mg/kg	B203009	2001378
2034075-09	Mn(WEN2)	Soil/Sediment	dry	3.44		0.077	0.154	mg/kg	B203010	2001388
2034075-09	Mn(WEN3)	Soil/Sediment	dry	4.41		0.372	0.744	mg/kg	B203011	2001419
2034075-09	Mn(WEN4)	Soil/Sediment	dry	3.92		0.349	0.698	mg/kg	B203012	2001430
2034075-09	Mn(WEN5)	Soil/Sediment	dry	324		0.082	0.164	mg/kg	B203013	2001437

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-04D_4.8-5	.8									
2034075-11	%TS	Soil/Sediment	NA	89.33		0.002	0.006	%	B203015	N/A
2034075-11	As	Soil/Sediment	dry	19.6		0.051	0.118	mg/kg	B203014	2001378
2034075-11	As(III)	Soil/Sediment	dry	0.662		0.002	0.012	mg/kg	B203067	2001428
2034075-11	As(V)	Soil/Sediment	dry	11.7		0.002	0.011	mg/kg	B203067	2001428
2034075-11	As(WEN1)	Soil/Sediment	dry	0.048		0.004	0.025	mg/kg	B203009	2001378
2034075-11	As(WEN2)	Soil/Sediment	dry	1.31		0.004	0.025	mg/kg	B203010	2001388
2034075-11	As(WEN3)	Soil/Sediment	dry	8.54		0.003	0.025	mg/kg	B203011	2001419
2034075-11	As(WEN4)	Soil/Sediment	dry	2.00		0.009	0.019	mg/kg	B203012	2001430
2034075-11	As(WEN5)	Soil/Sediment	dry	5.58		0.007	0.015	mg/kg	B203013	2001430
2034075-11	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-11	Fe	Soil/Sediment	dry	19400		3.49	7.32	mg/kg	B203014	2001378
2034075-11	Fe(WEN1)	Soil/Sediment	dry	2.52		0.112	0.249	mg/kg	B203009	2001378
2034075-11	Fe(WEN2)	Soil/Sediment	dry	4.70		0.499	0.998	mg/kg	B203010	2001388
2034075-11	Fe(WEN3)	Soil/Sediment	dry	1440		0.948	1.90	mg/kg	B203011	2001419
2034075-11	Fe(WEN4)	Soil/Sediment	dry	1040		2.05	4.09	mg/kg	B203012	2001430
2034075-11	Fe(WEN5)	Soil/Sediment	dry	17700		11.0	21.9	mg/kg	B203013	2001437
2034075-11	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.011	mg/kg	B203067	2001428
2034075-11	Mn	Soil/Sediment	dry	270		0.079	0.169	mg/kg	B203014	2001378
2034075-11	Mn(WEN1)	Soil/Sediment	dry	1.03		0.067	0.135	mg/kg	B203009	2001378
2034075-11	Mn(WEN2)	Soil/Sediment	dry	0.444		0.082	0.165	mg/kg	B203010	2001388
2034075-11	Mn(WEN3)	Soil/Sediment	dry	7.04		0.399	0.798	mg/kg	B203011	2001419
2034075-11	Mn(WEN4)	Soil/Sediment	dry	4.17		0.374	0.748	mg/kg	B203012	2001430
2034075-11	Mn(WEN5)	Soil/Sediment	dry	255		0.088	0.176	mg/kg	B203013	2001437

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-04D_7.5-8.	4									
2034075-12	%TS	Soil/Sediment	NA	73.90		0.003	0.008	%	B203015	N/A
2034075-12	As	Soil/Sediment	dry	16.1		0.064	0.149	mg/kg	B203014	2001378
2034075-12	As(III)	Soil/Sediment	dry	3.75	MN	0.003	0.014	mg/kg	B203067	2001428
2034075-12	As(V)	Soil/Sediment	dry	2.48	Ν	0.003	0.013	mg/kg	B203067	2001428
2034075-12	As(WEN1)	Soil/Sediment	dry	1.00		0.005	0.031	mg/kg	B203009	2001378
2034075-12	As(WEN2)	Soil/Sediment	dry	1.98		0.005	0.031	mg/kg	B203010	2001388
2034075-12	As(WEN3)	Soil/Sediment	dry	1.16		0.004	0.031	mg/kg	B203011	2001419
2034075-12	As(WEN4)	Soil/Sediment	dry	0.336		0.012	0.024	mg/kg	B203012	2001430
2034075-12	As(WEN5)	Soil/Sediment	dry	9.14		0.009	0.019	mg/kg	B203013	2001430
2034075-12	DMAs	Soil/Sediment	dry	≤ 0.003	UN	0.003	0.013	mg/kg	B203067	2001428
2034075-12	Fe	Soil/Sediment	dry	28000		4.41	9.24	mg/kg	B203014	2001378
2034075-12	Fe(WEN1)	Soil/Sediment	dry	437		0.140	0.312	mg/kg	B203009	2001378
2034075-12	Fe(WEN2)	Soil/Sediment	dry	823		0.624	1.25	mg/kg	B203010	2001388
2034075-12	Fe(WEN3)	Soil/Sediment	dry	3280		1.18	2.37	mg/kg	B203011	2001419
2034075-12	Fe(WEN4)	Soil/Sediment	dry	1490		2.56	5.11	mg/kg	B203012	2001430
2034075-12	Fe(WEN5)	Soil/Sediment	dry	21200		13.7	27.4	mg/kg	B203013	2001437
2034075-12	MMAs	Soil/Sediment	dry	≤ 0.003	UN	0.003	0.013	mg/kg	B203067	2001428
2034075-12	Mn	Soil/Sediment	dry	332		0.100	0.213	mg/kg	B203014	2001378
2034075-12	Mn(WEN1)	Soil/Sediment	dry	13.8		0.084	0.168	mg/kg	B203009	2001378
2034075-12	Mn(WEN2)	Soil/Sediment	dry	5.69		0.103	0.206	mg/kg	B203010	2001388
2034075-12	Mn(WEN3)	Soil/Sediment	dry	13.5		0.499	0.998	mg/kg	B203011	2001419
2034075-12	Mn(WEN4)	Soil/Sediment	dry	13.4		0.468	0.935	mg/kg	B203012	2001430
2034075-12	Mn(WEN5)	Soil/Sediment	dry	260		0.027	0.055	mg/kg	B203013	2001430

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-03D_22-23										
2034075-16	%TS	Soil/Sediment	NA	82.36		0.002	0.008	%	B203015	N/A
2034075-16	As	Soil/Sediment	dry	3.86		0.052	0.121	mg/kg	B203014	2001378
2034075-16	As(III)	Soil/Sediment	dry	0.304		0.003	0.014	mg/kg	B203067	2001428
2034075-16	As(V)	Soil/Sediment	dry	0.558		0.003	0.013	mg/kg	B203067	2001428
2034075-16	As(WEN1)	Soil/Sediment	dry	0.038		0.003	0.022	mg/kg	B203009	2001378
2034075-16	As(WEN2)	Soil/Sediment	dry	0.094		0.004	0.022	mg/kg	B203010	2001388
2034075-16	As(WEN3)	Soil/Sediment	dry	0.662		0.003	0.022	mg/kg	B203011	2001419
2034075-16	As(WEN4)	Soil/Sediment	dry	0.164		0.008	0.017	mg/kg	B203012	2001430
2034075-16	As(WEN5)	Soil/Sediment	dry	2.67		0.007	0.013	mg/kg	B203013	2001430
2034075-16	DMAs	Soil/Sediment	dry	≤ 0.003	U	0.003	0.013	mg/kg	B203067	2001428
2034075-16	Fe	Soil/Sediment	dry	20700		3.58	7.51	mg/kg	B203014	2001378
2034075-16	Fe(WEN1)	Soil/Sediment	dry	40.1		0.100	0.222	mg/kg	B203009	2001378
2034075-16	Fe(WEN2)	Soil/Sediment	dry	135		0.444	0.888	mg/kg	B203010	2001388
2034075-16	Fe(WEN3)	Soil/Sediment	dry	1140		0.843	1.69	mg/kg	B203011	2001419
2034075-16	Fe(WEN4)	Soil/Sediment	dry	408		1.82	3.64	mg/kg	B203012	2001430
2034075-16	Fe(WEN5)	Soil/Sediment	dry	19300		9.76	19.5	mg/kg	B203013	2001437
2034075-16	MMAs	Soil/Sediment	dry	≤ 0.003	U	0.003	0.013	mg/kg	B203067	2001428
2034075-16	Mn	Soil/Sediment	dry	269		0.081	0.173	mg/kg	B203014	2001378
2034075-16	Mn(WEN1)	Soil/Sediment	dry	0.924		0.060	0.120	mg/kg	B203009	2001378
2034075-16	Mn(WEN2)	Soil/Sediment	dry	0.794		0.073	0.146	mg/kg	B203010	2001388
2034075-16	Mn(WEN3)	Soil/Sediment	dry	3.08		0.355	0.710	mg/kg	B203011	2001419
2034075-16	Mn(WEN4)	Soil/Sediment	dry	3.03		0.333	0.666	mg/kg	B203012	2001430
2034075-16	Mn(WEN5)	Soil/Sediment	dry	283		0.078	0.156	mg/kg	B203013	2001437

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-07D_6.1-7.	1									
2034075-21	%TS	Soil/Sediment	NA	86.95		0.003	0.01	%	B203015	N/A
2034075-21	As	Soil/Sediment	dry	79.7		0.053	0.123	mg/kg	B203014	2001378
2034075-21	As(III)	Soil/Sediment	dry	7.12		0.002	0.012	mg/kg	B203067	2001428
2034075-21	As(V)	Soil/Sediment	dry	7.86		0.002	0.012	mg/kg	B203067	2001428
2034075-21	As(WEN1)	Soil/Sediment	dry	1.37		0.003	0.023	mg/kg	B203009	2001378
2034075-21	As(WEN2)	Soil/Sediment	dry	3.50		0.004	0.023	mg/kg	B203010	2001388
2034075-21	As(WEN3)	Soil/Sediment	dry	7.35		0.003	0.023	mg/kg	B203011	2001419
2034075-21	As(WEN4)	Soil/Sediment	dry	2.37		0.009	0.017	mg/kg	B203012	2001430
2034075-21	As(WEN5)	Soil/Sediment	dry	43.2		0.007	0.014	mg/kg	B203013	2001430
2034075-21	DMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.012	mg/kg	B203067	2001428
2034075-21	Fe	Soil/Sediment	dry	21700		3.64	7.63	mg/kg	B203014	2001378
2034075-21	Fe(WEN1)	Soil/Sediment	dry	59.9		0.102	0.227	mg/kg	B203009	2001378
2034075-21	Fe(WEN2)	Soil/Sediment	dry	236		0.453	0.906	mg/kg	B203010	2001388
2034075-21	Fe(WEN3)	Soil/Sediment	dry	2020		0.861	1.72	mg/kg	B203011	2001419
2034075-21	Fe(WEN4)	Soil/Sediment	dry	652		1.86	3.72	mg/kg	B203012	2001430
2034075-21	Fe(WEN5)	Soil/Sediment	dry	17000		9.97	19.9	mg/kg	B203013	2001437
2034075-21	MMAs	Soil/Sediment	dry	≤ 0.002	U	0.002	0.012	mg/kg	B203067	2001428
2034075-21	Mn	Soil/Sediment	dry	283		0.082	0.176	mg/kg	B203014	2001378
2034075-21	Mn(WEN1)	Soil/Sediment	dry	5.83		0.061	0.122	mg/kg	B203009	2001378
2034075-21	Mn(WEN2)	Soil/Sediment	dry	2.68		0.075	0.150	mg/kg	B203010	2001388
2034075-21	Mn(WEN3)	Soil/Sediment	dry	5.34		0.363	0.725	mg/kg	B203011	2001419
2034075-21	Mn(WEN4)	Soil/Sediment	dry	5.26		0.340	0.680	mg/kg	B203012	2001430
2034075-21	Mn(WEN5)	Soil/Sediment	dry	244		0.080	0.160	mg/kg	B203013	2001437



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Accuracy & Precision Summary

Batch: B203009

Lab Matrix: Soil/Sediment

Sample B203009-DUP1	Analyte Duplicate, (2034075-03)	Native	Spike	Result	Units	REC 8	Limits	RPD & Li	mits
B203009-DOP1	As(WEN1)	0.183		0.165	mg/kg			11%	35
	Fe(WEN1)	3.511		2.301	mg/kg			42%	25
	Mn(WEN1)	1.483		1.333	mg/kg			11%	25
B203009-PS1	Post Spike, (2034075-03)	0.400	7.440	0.000	//	0.40/	75 405		
	As(WEN1)	0.183	7.110	6.832	mg/kg		75-125		
	Fe(WEN1)	3.511	71.10	72.57	mg/kg		75-125		
	Mn(WEN1)	1.483	7.110	8.443	mg/kg	98%	75-125		
B203009-PS2	Post Spike, (2034075-03)								
2200000 : 02	As(WEN1)	0.183	7.110	6.833	mg/kg	94%	75-125		
	Fe(WEN1)	3.511	71.10	73.94	mg/kg	99%	75-125		
	Mn(WEN1)	1.483	7.110	8.579	mg/kg		75-125		
B203009-DUP2	Duplicate, (2034075-08)								
	As(WEN1)	0.955		0.304	mg/kg			103%	35
	Fe(WEN1)	20.16		14.68	mg/kg			31%	25
	Mn(WEN1)	2.253		2.445	mg/kg			8%	25
B203009-PS3	Post Spike, (2034075-08)								
D203003-1 03	As(WEN1)	0.955	9.338	9.748	mg/kg	94%	75-125		
	Fe(WEN1)	20.16	93.38	114.1	mg/kg		75-125		
	Mn(WEN1)	2.253	9.338	11.70	mg/kg		75-125		
	IVIII(VVLIVI)	2.200	3.000	11.70	mg/kg	10170	70-120		
B203009-PS4	Post Spike, (2034075-08)								
	As(WEN1)	0.955	9.338	9.686	mg/kg	93%	75-125		
	Fe(WEN1)	20.16	93.38	113.8	mg/kg	100%	75-125		
	Mn(WEN1)	2.253	9.338	11.81	mg/kg	102%	75-125		



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Accuracy & Precision Summary

Batch: B203010

Lab Matrix: Soil/Sediment

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B203010-DUP1	Duplicate, (2034075-03)	0.400		0.502			470/ 25
	As(WEN2)	0.426		0.503	mg/kg		17% 35
	Fe(WEN2)	4.239		3.321	mg/kg		24% 25
	Mn(WEN2)	0.772		0.737	mg/kg		5% 25
B203010-PS1	Post Spike, (2034075-03)						
	As(WEN2)	0.426	7.110	6.735	mg/kg	89% 75-125	
	Fe(WEN2)	4.239	71.10	71.53	mg/kg	95% 75-125	
	Mn(WEN2)	0.772	7.110	7.498	mg/kg	95% 75-125	
	, ,						
B203010-PS2	Post Spike, (2034075-03)						
	As(WEN2)	0.426	7.110	6.887	mg/kg	91% 75-125	
	Fe(WEN2)	4.239	71.10	72.93	mg/kg	97% 75-125	
	Mn(WEN2)	0.772	7.110	7.617	mg/kg	96% 75-125	
B203010-DUP2	Duplicate, (2034075-08)						
	As(WEN2)	1.287		3.486	mg/kg		<b>92%</b> 35
	Fe(WEN2)	143.9		155.9	mg/kg		8% 25
	Mn(WEN2)	2.167		1.822	mg/kg		17% 25
B203010-PS3	Post Spike, (2034075-08)	4 007	0.000	0.500	/1	000/ 75 405	
	As(WEN2)	1.287	9.338	9.590	mg/kg	89% 75-125	
	Fe(WEN2)	143.9	93.38	232.3	mg/kg	95% 75-125	
	Mn(WEN2)	2.167	9.338	11.14	mg/kg	96% 75-125	
B203010-PS4	Post Spike, (2034075-08)						
	As(WEN2)	1.287	9.338	9.703	mg/kg	90% 75-125	
	Fe(WEN2)	143.9	93.38	229.4	mg/kg	92% 75-125	
	Mn(WEN2)	2.167	9.338	11.06	mg/kg	95% 75-125	
	` '						



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Accuracy & Precision Summary

Batch: B203011

Lab Matrix: Soil/Sediment

Sample	Analyte	Native	Spike	Result	Units	REC &	Limits	RPD & Li	mits
B203011-DUP1	Duplicate, (2034075-03) As(WEN3)	0.942		1.048	ma/ka			11%	35
	Fe(WEN3)	522.0		479.5	mg/kg mg/kg			8%	25
	Mn(WEN3)	2.492		2.287	mg/kg			9%	25
	WIII(VVEINS)	2.492		2.201	mg/kg			9 70	23
B203011-PS1	Post Spike, (2034075-03)								
	As(WEN3)	0.942	7.110	7.376	mg/kg	90%	75-125		
	Fe(WEN3)	522.0	71.10	566.9	mg/kg		75-125		
	Mn(WEN3)	2.492	7.110	8.936	mg/kg		75-125		
	( - /				3 3				
B203011-PS2	Post Spike, (2034075-03)								
	As(WEN3)	0.942	7.110	7.376	mg/kg	91%	75-125		
	Fe(WEN3)	522.0	71.10	558.2	mg/kg	51%	75-125		
	Mn(WEN3)	2.492	7.110	8.925	mg/kg	90%	75-125		
B203011-DUP2	Duplicate, (2034075-08)								
	As(WEN3)	1.045		1.762	mg/kg			51%	35
	Fe(WEN3)	1903		2396	mg/kg			23%	25
	Mn(WEN3)	9.164		8.716	mg/kg			5%	25
B203011-PS3	Doot Chiko (2024075 00)								
D203011-P33	Post Spike, (2034075-08) As(WEN3)	1.045	9.338	9.738	mg/kg	03%	75-125		
	Fe(WEN3)	1903	93.38	9.736 1954	mg/kg		75-125 75-125		
	Mn(WEN3)	9.164	9.338	17.86	mg/kg		75-125 75-125		
	WIII(VVENS)	9.104	9.550	17.00	mg/kg	9370	73-123		
B203011-PS4	Post Spike, (2034075-08)								
	As(WEN3)	1.045	9.338	9.829	mg/kg	94%	75-125		
	Fe(WEN3)	1903	93.38	2041	mg/kg	148%	75-125		
	Mn(WEN3)	9.164	9.338	18.46	mg/kg	100%	75-125		



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Accuracy & Precision Summary

Batch: B203012

Lab Matrix: Soil/Sediment

Sample B203012-DUP1	Analyte Duplicate, (2034075-03)	Native	Spike	Result	Units	REC &	Limits	RPD & Li	mits
D203012-D0F1	As(WEN4)	0.499		0.462	mg/kg			8%	35
	Fe(WEN4)	827.5		793.6				4%	25
	` ,			4.645	mg/kg			4%	
	Mn(WEN4)	4.470		4.043	mg/kg			4 70	25
B203012-PS1	Post Spike, (2034075-03)								
	As(WEN4)	0.499	7.110	7.266	mg/kg	95%	75-125		
	Fe(WEN4)	827.5	71.10	879.9	mg/kg		75-125		
	Mn(WEN4)	4.470	7.110	11.47	mg/kg		75-125		
	(,				99	0075			
B203012-PS2	Post Spike, (2034075-03)								
	As(WEN4)	0.499	7.110	7.211	mg/kg	94%	75-125		
	Fe(WEN4)	827.5	71.10	1001	mg/kg	244%	75-125		
	Mn(WEN4)	4.470	7.110	12.27	mg/kg	110%	75-125		
Daggara Duba	Dunlingto (2024075.00)								
B203012-DUP2	Duplicate, (2034075-08)	0.044		0.000				440/	25
	As(WEN4)	0.214		0.239	mg/kg			11%	
	Fe(WEN4)	1912		2400	mg/kg			23%	25
	Mn(WEN4)	14.58		16.53	mg/kg			13%	25
B203012-PS3	Post Spike, (2034075-08)								
	As(WEN4)	0.214	9.338	8.987	mg/kg	94%	75-125		
	Fe(WEN4)	1912	93.38	1965	mg/kg		75-125		
	Mn(WEN4)	14.58	9.338	23.38	mg/kg		75-125		
B203012-PS4	Post Spike, (2034075-08)								
	As(WEN4)	0.214	9.338	8.997	mg/kg	94%	75-125		
	Fe(WEN4)	1912	93.38	2457	mg/kg	584%	75-125		
	Mn(WEN4)	14.58	9.338	25.68	mg/kg	119%	75-125		

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Accuracy & Precision Summary

Batch: B203013

Lab Matrix: Soil/Sediment

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B203013-DUP1	Duplicate, (2034075-03) As(WEN5)	4.008		4.272	mg/kg		6% 35
	Mn(WEN5)	231.4		232.4	mg/kg		0.4% 25
B203013-DUP3	Duplicate, (2034075-03)						
B203013-B0F3	Fe(WEN5)	15780		16300	mg/kg		3% 25
B203013-PS1	Post Spike, (2034075-03) As(WEN5)	4.008	14.22	17.19	mg/kg	93% 75-125	
	Mn(WEN5)	231.4	14.22	247.9	mg/kg	116% 75-125	
B203013-PS2	Post Spike, (2034075-03) As(WEN5)	4.008	14.22	18.03	mg/kg	99% 75-125	
	Mn(WEN5)	231.4	14.22	285.5	mg/kg	380% 75-125	
B203013-PS5	Post Spike, (2034075-03)	45700	500.0	40500	,,	4000/ 75 405	
	Fe(WEN5)	15780	568.8	16530	mg/kg	<b>133%</b> 75-125	
B203013-PS6	Post Spike, (2034075-03)						
	Fe(WEN5)	15780	568.8	19390	mg/kg	<b>634%</b> 75-125	
B203013-DUP2	Duplicate, (2034075-08) As(WEN5)	9.737		11.98	mg/kg		21% 35
	Mn(WEN5)	320.0		290.5	mg/kg		10% 25
B203013-DUP4	Duplicate, (2034075-08) Fe(WEN5)	25230		24240	mg/kg		4% 25
	i c(vvLivo)	20200		24240	mg/kg		470 20
B203013-PS3	Post Spike, (2034075-08)						
	As(WEN5)	9.737	18.68	26.55	mg/kg	90% 75-125	
	Mn(WEN5)	320.0	18.68	354.5	mg/kg	<b>185%</b> 75-125	
B203013-PS4	Post Spike, (2034075-08)						
	As(WEN5)	9.737	18.68	28.44	mg/kg	100% 75-125	
	Mn(WEN5)	320.0	18.68	304.9	mg/kg	<i>-81%</i> 75-125	

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203013

Lab Matrix: Soil/Sediment

Sample B203013-PS7	Analyte Post Spike, (2034075-08)	Native	Spike	Result	Units	REC & Limits	RPD & Limits
D200010-1 01	Fe(WEN5)	25230	747.0	25800	mg/kg	77% 75-125	
B203013-PS8	Post Spike, (2034075-08) Fe(WEN5)	25230	747.0	25250	mg/kg	<mark>2%</mark> 75-125	



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203014

Lab Matrix: Soil/Sediment Method: EPA 6020B Mod

Sample B203014-BS1	Analyte Blank Spike, (2047060)	Native	Spike	Result	Units	REC 8	Limits	RPD & Li	mits
	As		50.00	47.97	mg/kg	96%	75-125		
	Fe		500.0	497.9	mg/kg	100%	75-125		
	Mn		50.00	49.73	mg/kg	99%	75-125		
B203014-SRM1	Reference Material (20050	27, CRM05				0.40/	75 405		
	As —		202.0	190.7	mg/kg		75-125		
	Fe		9977	11130	mg/kg		75-125		
	Mn		1127	1239	mg/kg	110%	75-125		
B203014-DUP1	Duplicate, (2034075-03)								
	As	6.278		6.656	mg/kg			6%	30
	Fe	17700		17780	mg/kg			0.5%	30
	Mn	245.5		246.1	mg/kg			0.2%	30
B203014-MS1	Matrix Spike, (2034075-03	•	50.75	04.04	<i>(</i> 1	000/	70.400		
	As -	6.278	59.75	64.81	mg/kg		70-130		
	Fe	17700	597.5	19290	mg/kg		70-130		
	Mn	245.5	59.75	321.1	mg/kg	NR	70-130		
B203014-MSD1	Matrix Spike Duplicate, (2	034075-03	)						
	As	6.278	, 58.04	63.50	mg/kg	99%	70-130	0.6%	30
	Fe	17700	580.4	18590	mg/kg	NR	70-130	N/C	30
	Mn	245.5	58.04	301.6	mg/kg	NR	70-130	N/C	30
D000044 DUD0	Dunii asta (2024075 00)								
B203014-DUP2	<b>Duplicate</b> , (2034075-08) As	14.04		13.96	mg/kg			0.6%	30
	Fe	29190		26060				11%	30
					mg/kg				
	Mn	338.4		301.0	mg/kg			12%	30
B203014-MS2	Matrix Spike, (2034075-08	)							
	As	14.04	87.04	100.6	mg/kg	99%	70-130		
	Fe	29190	870.4	30600	mg/kg	NR	70-130		
	Mn	338.4	87.04	432.4	mg/kg	108%	70-130		

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203014

Lab Matrix: Soil/Sediment Method: EPA 6020B Mod

Sample	Analyte	Native	Spike	Result	Units	<b>REC &amp; Limits</b>	<b>RPD &amp; Limits</b>
B203014-MSD2	Matrix Spike Duplicate,	(2034075-08)					
	As	14.04	84.03	91.52	mg/kg	92% 70-130	8% 30
	Fe	29190	840.3	28920	mg/kg	NR 70-130	N/C 30
	Mn	338.4	84.03	407.4	mg/kg	NR 70-130	N/C 30

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203015

**Lab Matrix:** Soil/Sediment **Method:** SOP BAL-0501

Sample B203015-DUP1	Analyte Duplicate, (2034075-03)	Native	Spike	Result	Units	<b>REC &amp; Limits</b>	RPD & Limits
2200010 201 1	%TS	82.85		83.50	%		0.8% 15
B203015-DUP2	Duplicate, (2034075-08) %TS	61.18		58.53	%		4% 15



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203067

**Lab Matrix:** Soil/Sediment **Method:** SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC &	Limits	RPD & Li	mits
B203067-BS1	Blank Spike, As(V) (1941 As(V)	027)	9.706	9.580	mg/kg	99%	75-125		
B203067-BS2	Blank Spike, As(III), DMA	., MMA (204	8004)						
	As(III)	,	10.00	12.07	mg/kg	121%	75-125		
	DMAs		10.42	11.68	mg/kg	112%	75-125		
	MMAs		10.00	11.29	mg/kg	113%	75-125		
B203067-DUP1	Duplicate, (2034075-01)								
	As(III)	1.999		2.029	mg/kg			1%	25
	As(V)	1.563		1.782	mg/kg			13%	25
	DMAs	ND		ND	mg/kg			N/C	25
	MMAs	ND		ND	mg/kg			N/C	25
B203067-MS1	Matrix Spike, As(V) (2034	1075-01)							
	As(V)	1.563	10.86	12.65	mg/kg	102%	75-125		
B203067-MS2	Matrix Spike, As(III), MM	As, DMAs (2	2034075-01)						
	As(III)	1.999	10.61	9.385	mg/kg	70%	75-125		
	DMAs	ND	11.06	10.64	mg/kg	96%	75-125		
	MMAs	ND	10.61	8.444	mg/kg	80%	75-125		
B203067-MSD1	Matrix Spike Duplicate, A	As(V) (20340	75-01)						
	As(V)	1.563	10.49	12.50	mg/kg	104%	75-125	2%	25
B203067-MSD2	Matrix Spike Duplicate, A	As(III), MMAs	s, DMAs (203	4075-01)					
	As(III)	1.999	10.71	9.739	mg/kg	72%	75-125	4%	25
	DMAs	ND	11.16	11.47	mg/kg	103%	75-125	7%	25
	MMAs	ND	10.71	9.593	mg/kg	90%	75-125	12%	25
B203067-DUP2	Duplicate, (2034075-12)								
	As(III)	3.750		2.871	mg/kg			27%	25
	As(V)	2.480		2.191	mg/kg			12%	25
	DMAs	ND		ND	mg/kg			N/C	25
	MMAs	ND		ND	mg/kg			N/C	25

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

## Accuracy & Precision Summary

Batch: B203067

**Lab Matrix:** Soil/Sediment **Method:** SOP BAL-4100

Sample B203067-MS3	Analyte Matrix Spike, As(V) (20	Native	Spike	Result	Units	REC 8	Limits	RPD & Lir	nits
B200007-INIO0	As(V)	2.480	10.88	7.074	mg/kg	42%	75-125		
B203067-MS4	Matrix Spike, As(III), M	MAs, DMAs (2	034075-12)						
	As(III)	3.750	12.66	9.502	mg/kg	45%	75-125		
	DMAs	ND	13.19	2.863	mg/kg	22%	75-125		
	MMAs	ND	12.66	0.579	mg/kg	5%	75-125		
B203067-MSD3	Matrix Spike Duplicate	e, As(V) (20340	75-12)						
	As(V)	2.480	10.65	8.227	mg/kg	54%	75-125	24%	25
B203067-MSD4	Matrix Spike Duplicate	, As(III), MMAs	s, DMAs (2034	<b>4075-12</b> )					
	As(III)	3.750	12.60	8.603	mg/kg	39%	75-125	16%	25
	DMAs	ND	13.13	1.617	mg/kg	12%	75-125	55%	25
	MMAs	ND	12.60	0.461	mg/kg	4%	75-125	22%	25

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203009 Matrix: Soil/Sediment Method: In-House Analyte: As(WEN1)

Sample	Result	Units
B203009-BLK1	0.001	mg/kg
B203009-BLK2	-0.0002	mg/kg
B203009-BLK3	0.0003	mg/kg
B203009-BLK4	0.002	mg/kg

**Average:** 0.001 **MDL:** 0.004 **Limit:** 0.025 **MRL:** 0.025

Analyte: Fe(WEN1)

Sample	Result	Units
B203009-BLK1	0.034	mg/kg
B203009-BLK2	-0.009	mg/kg
B203009-BLK3	0.058	mg/kg
B203009-BLK4	0.011	mg/kg

**Average:** 0.024 **MDL:** 0.112 **Limit:** 0.250 **MRL:** 0.250

Analyte: Mn(WEN1)

Sample	Result	Units
B203009-BLK1	0.051	mg/kg
B203009-BLK2	0.040	mg/kg
B203009-BLK3	0.053	mg/kg
B203009-BLK4	0.051	mg/kg

**Average**: 0.049 **MDL**: 0.068 **Limit**: 0.135 **MRL**: 0.135

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203010 Matrix: Soil/Sediment Method: In-House Analyte: As(WEN2)

Sample	Result	Units
B203010-BLK1	0.003	mg/kg
B203010-BLK2	0.002	mg/kg
B203010-BLK3	0.002	mg/kg
B203010-BLK4	0.003	mg/kg

**Average:** 0.003 **MDL:** 0.004 **Limit:** 0.025 **MRL:** 0.025

Analyte: Fe(WEN2)

Sample	Result	Units
B203010-BLK1	0.303	mg/kg
B203010-BLK2	0.051	mg/kg
B203010-BLK3	0.075	mg/kg
B203010-BLK4	0.057	mg/kg

Average: 0.122 MDL: 0.500 Limit: 1.000 MRL: 1.00

Analyte: Mn(WEN2)

Sample	Result	Units
B203010-BLK1	0.050	mg/kg
B203010-BLK2	0.008	mg/kg
B203010-BLK3	0.007	mg/kg
B203010-BLK4	0.006	ma/ka

**Average:** 0.018 **MDL:** 0.082 **Limit:** 0.165 **MRL:** 0.165

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203011 Matrix: Soil/Sediment Method: In-House Analyte: As(WEN3)

Sample	Result	Units
B203011-BLK1	0.001	mg/kg
B203011-BLK2	0.001	mg/kg
B203011-BLK3	0.002	mg/kg
B203011-BLK4	0.0004	mg/kg

 Average: 0.001
 MDL: 0.003

 Limit: 0.025
 MRL: 0.025

Analyte: Fe(WEN3)

Sample	Result	Units
B203011-BLK1	0.795	mg/kg
B203011-BLK2	0.811	mg/kg
B203011-BLK3	0.799	mg/kg
B203011-BLK4	0.697	mg/kg

**Average:** 0.775 **MDL:** 0.950 **Limit:** 1.900 **MRL:** 1.90

Analyte: Mn(WEN3)

Sample	Result	Units
B203011-BLK1	0.323	mg/kg
B203011-BLK2	0.350	mg/kg
B203011-BLK3	0.309	mg/kg
B203011-BLK4	0.302	mg/kg

Average: 0.321 MDL: 0.400 Limit: 0.800 MRL: 0.800

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203012 Matrix: Soil/Sediment Method: In-House Analyte: As(WEN4)

Sample	Result	Units
B203012-BLK1	0.002	mg/kg
B203012-BLK2	0.004	mg/kg
B203012-BLK3	0.006	mg/kg
B203012-BLK4	0.005	ma/ka

**Average:** 0.004 **MDL:** 0.010 **Limit:** 0.019 **MRL:** 0.019

Analyte: Fe(WEN4)

Sample	Result	Units
B203012-BLK1	0.971	mg/kg
B203012-BLK2	1.11	mg/kg
B203012-BLK3	1.61	mg/kg
B203012-BLK4	1.05	mg/kg

**Average:** 1.188 **MDL:** 2.05 **Limit:** 4.100 **MRL:** 4.10

Analyte: Mn(WEN4)

Sample	Result	Units
B203012-BLK1	0.359	mg/kg
B203012-BLK2	0.339	mg/kg
B203012-BLK3	0.344	mg/kg
B203012-BLK4	0.342	mg/kg

**Average**: 0.346 **MDL**: 0.375 **Limit**: 0.750 **MRL**: 0.750

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203013 Matrix: Soil/Sediment Method: In-House Analyte: As(WEN5)

Sample	Result	Units
B203013-BLK1	0.005	mg/kg
B203013-BLK2	0.003	mg/kg
B203013-BLK3	0.005	mg/kg
B203013-BLK4	0.005	mg/kg

**Average:** 0.005 **MDL:** 0.008 **Limit:** 0.015 **MRL:** 0.015

Analyte: Fe(WEN5)

Sample	Result	Units
B203013-BLK1	0.147	mg/kg
B203013-BLK2	0.729	mg/kg
B203013-BLK3	1.55	mg/kg
B203013-BLK4	0.240	mg/kg

**Average:** 0.666 **MDL:** 2.75 **Limit:** 5.500 **MRL:** 5.50

Analyte: Mn(WEN5)

Sample	Result	Units
B203013-BLK1	0.0006	mg/kg
B203013-BLK2	0.007	mg/kg
B203013-BLK3	0.012	mg/kg
B203013-BLK4	0.0002	ma/ka

**Average**: 0.005 **MDL**: 0.022 **Limit**: 0.044 **MRL**: 0.044

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203014 Matrix: Soil/Sediment Method: EPA 6020B Mod

Analyte: As

Sample	Result	Units
B203014-BLK1	0.001	mg/kg
B203014-BLK2	-0.0009	mg/kg
B203014-BLK3	0.001	mg/kg
B203014-BLK4	-0.002	mg/kg

 Average: 0.000
 MDL: 0.045

 Limit: 0.105
 MRL: 0.105

Analyte: Fe

Sample	Result	Units
B203014-BLK1	0.08	mg/kg
B203014-BLK2	0.03	mg/kg
B203014-BLK3	-0.01	mg/kg
B203014-BLK4	0.31	mg/kg

**Average:** 0.10 **MDL:** 3.10 **Limit:** 6.50 **MRL:** 6.50

Analyte: Mn

Sample	Result	Units
B203014-BLK1	0.008	mg/kg
B203014-BLK2	0.007	mg/kg
B203014-BLK3	-0.002	mg/kg
B203014-BLK4	0.050	ma/ka

**Average**: 0.016 **MDL**: 0.070 **Limit**: 0.150 **MRL**: 0.150

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203015 Matrix: Soil/Sediment Method: SOP BAL-0501

Analyte: %TS

 Sample
 Result
 Units

 B203015-BLK1
 0.05
 %

 B203015-BLK2
 0.05
 %

 Average: 0.05
 MDL: 0.03

 Limit: 0.10
 MRL: 0.10

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B203067 Matrix: Soil/Sediment Method: SOP BAL-4100

Analyte: As(III)

Sample	Result	Units
B203067-BLK1	0.00	mg/kg
B203067-BLK2	0.00	mg/kg
B203067-BLK3	0.00	mg/kg
B203067-BI K4	0.00	ma/ka

**Average:** 0.000 **MDL:** 0.002 **Limit:** 0.012 **MRL:** 0.012

Analyte: As(V)

Sample	Result	Units
B203067-BLK1	0.00	mg/kg
B203067-BLK2	0.00	mg/kg
B203067-BLK3	0.00	mg/kg
B203067-BLK4	0.00	mg/kg

**Average:** 0.000 **MDL:** 0.002 **Limit:** 0.011 **MRL:** 0.011

Analyte: DMAs

Sample	Result	Units
B203067-BLK1	0.00	mg/kg
B203067-BLK2	0.00	mg/kg
B203067-BLK3	0.00	mg/kg
B203067-BLK4	0.00	mg/kg

**Average:** 0.000 **MDL:** 0.002 **Limit:** 0.011 **MRL:** 0.011

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Method Blanks & Reporting Limits

Analyte: MMAs

Sample	Result	Units
B203067-BLK1	0.00	mg/kg
B203067-BLK2	0.00	mg/kg
B203067-BLK3	0.00	mg/kg
B203067-BLK4	0.00	mg/kg

 Average: 0.000
 MDL: 0.002

 Limit: 0.011
 MRL: 0.011

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

	D: 2034075-01 ple: MW-04D_12.7-13.7 Container	Size	Lot	Report Matrix: Soil/Sediment Sample Type: Sample Preservation	P-Lot		ted: 08/20/2020 ved: 08/21/2020 Ship. Cont.
A	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
	<b>D</b> : 2034075-02			Report Matrix: Soil/Sediment		Collec	ted: 08/20/2020
Samı	ple: MW-04D_18.6-19.6			Sample Type: Sample			ved: 08/21/2020
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
	<b>D</b> : 2034075-03			Report Matrix: Soil/Sediment			ted: 08/19/2020
	ple: MW-06D_6.7-7.7			Sample Type: Sample		Recei	ved: 08/21/2020
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
Sam	D: 2034075-04 ple: MW-06D_9.3-10 Container	Size	Lot	Report Matrix: Soil/Sediment Sample Type: Sample Preservation	P-Lot	Recei	ted: 08/19/2020 ved: 08/21/2020
Des	Client-Provided	n/a			n/a	pH n/a	Ship. Cont. Default
Α	Client-Provided	II/a	n/a	none	П/а	II/a	Cooler - 2034075
	<b>D</b> : 2034075-05 ple: MW-06D_12-13			Report Matrix: Soil/Sediment Sample Type: Sample			ted: 08/19/2020 ved: 08/21/2020
-	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sam	ID: 2034075-06 ple: MW-06D_18.1-19.1 Container	Size	Lot	Report Matrix: Soil/Sediment Sample Type: Sample Preservation	P-Lot	Collected: 08/19/202 Received: 08/21/20	
A	Client-Provided	n/a	n/a	none	n/a	pH Ship. Cont. n/a Default Cooler - 2034075	
	ID: 2034075-07 ple: MW-05D 4.5-5.2			Report Matrix: Soil/Sediment Sample Type: Sample		Collected: 08/20/20/20/20/20/20/20/20/20/20/20/20/20/	
	Container	Size	Lot	Preservation	P-Lot	pH Ship. Cont.	
Α	Client-Provided	n/a	n/a	none	n/a	n/a Default Cooler - 2034075	
	ID: 2034075-08 ple: MW-05D_6.5-7.5			Report Matrix: Soil/Sediment		Collected: 08/20/20/ Received: 08/21/20	
	Container	Size	Lot	Sample Type: Sample Preservation	P-Lot	pH Ship. Cont.	20
A	Client-Provided	n/a	n/a	none	n/a	n/a Default Cooler - 2034075	
Sam	ID: 2034075-09 ple: MW-05D_11.8-12.8			Report Matrix: Soil/Sediment Sample Type: Sample		Collected: 08/20/20/20/20/20/20/20/20/20/20/20/20/20/	
Des	Container	Size	Lot	Preservation	P-Lot	pH Ship. Cont.	
Α	Client-Provided	n/a	n/a	none	n/a	n/a Default Cooler - 2034075	
Sam	ID: 2034075-10 ple: MW-05D_18.8-19.8			Report Matrix: Soil/Sediment Sample Type: Sample		Collected: 08/20/20/20/20/20/20/20/20/20/20/20/20/20/	
	Container	Size	Lot	Preservation	P-Lot	pH Ship. Cont.	
Α	Client-Provided	n/a	n/a	none	n/a	n/a Default Cooler - 2034075	

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sam	ID: 2034075-11 ple: MW-04D_4.8-5.8	Ci	Lak	Report Matrix: Soil/Sediment Sample Type: Sample	D.I. of	Recei	cted: 08/20/2020 ived: 08/21/2020
Des A	Container Client-Provided	Size n/a	Lot n/a	Preservation none	P-Lot n/a	pH n/a	Ship. Cont.  Default  Cooler -  2034075
	<b>ID</b> : 2034075-12			Report Matrix: Soil/Sediment			cted: 08/20/2020
	ple: MW-04D_7.5-8.4	0.		Sample Type: Sample	<b>5.</b> 1.4		ived: 08/21/2020
	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
Lab ID: 2034075-13         Report Matrix: Soil/Sediment         Collected: 08/17/2020           Sample: MW-02D_16-17         Sample Type: Sample         Received: 08/21/2020							
	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
Lab	<b>ID</b> : 2034075-14			Report Matrix: Soil/Sediment		Collec	cted: 08/17/2020
Sam	ple: MW-02D_21-22			Sample Type: Sample		Recei	ived: 08/21/2020
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
				cted: 08/18/2020 ived: 08/21/2020			
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075

PM: Amy Goodall



BAL Report 2034075

Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As Speciation)

Sam	ID: 2034075-16 ple: MW-03D_22-23			Report Matrix: Soil/Sediment Sample Type: Sample			cted: 08/18/2020 ved: 08/21/2020
Des A	Container Client-Provided	Size n/a	Lot n/a	Preservation none	P-Lot n/a	pH n/a	Ship. Cont.  Default  Cooler - 2034075
	ID: 2034075-17 ple: MW-01D_7.1-8.1			Report Matrix: Soil/Sediment Sample Type: Sample			cted: 08/18/2020 ved: 08/21/2020
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
<b>Lab ID</b> : 2034075-18 <b>Sample</b> : MW-01D_12-13				Report Matrix: Soil/Sediment Sample Type: Sample			cted: 08/19/2020 ved: 08/21/2020
Des	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
	ID: 2034075-19 ple: MW-01D_16.5-17.5			Report Matrix: Soil/Sediment Sample Type: Sample			cted: 08/19/2020 ved: 08/21/2020
	Container	Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075
	ID: 2034075-20 ple: MW-01D_22.5-23.5			Report Matrix: Soil/Sediment Sample Type: Sample			cted: 08/19/2020 ved: 08/21/2020
Des		Size	Lot	Preservation	P-Lot	рН	Ship. Cont.
Α	Client-Provided	n/a	n/a	none	n/a	n/a	Default Cooler - 2034075

PM: Amy Goodall



BAL Report 2034075
Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)

Lab ID: 2034075-21 Sample: MW-07D_6.1-7.1 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075
Lab ID: 2034075-22 Sample: MW-07D_11-12 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075
Lab ID: 2034075-23 Sample: MW-07D_15.5-16.5 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075
Lab ID: 2034075-24 Sample: MW-07D_21.5-22.5 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075
Lab ID: 2034075-25 Sample: MW-10D_6.5-7.5 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075
Lab ID: 2034075-26 Sample: MW-10D_13.5-14.5 Des Container A Client-Provided	Size n/a	Lot n/a	Report Matrix: Soil/Sediment Sample Type: Sample Preservation none	P-Lot n/a	 ted: 08/21/2020 ved: 08/21/2020 Ship. Cont. Default Cooler - 2034075

PM: Amy Goodall



BAL Report 2034075 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Collected: 08/21/2020

Speciation)

#### Sample Containers

Lab ID: 2034075-27 Report Matrix: Soil/Sediment Sample: MW-10D 18.9-19.9 Sample Type: Sample

Received: 08/21/2020 Size Lot **Preservation** P-Lot **Des Container** pН Ship. Cont. Client-Provided Default n/a n/a none n/a n/a Cooler -2034075

Lab ID: 2034075-28 Report Matrix: Soil/Sediment

Collected: 08/21/2020 Sample: MW-10D 27.5-28.5 Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot pН Ship. Cont. Default Client-Provided n/a none n/a n/a n/a Cooler -2034075

#### **Shipping Containers**

Default Cooler - 2034075

Received: August 21, 2020 16:49

Tracking No: via **Coolant Type:** 

Temperature: -0.1 °C

**Description:** Default Cooler Damaged in transit? No Returned to client? No

Custody seals present? No Custody seals intact? No COC present? No



# **Chain-of-Custody Form**

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

Received by:	BAL use only Date:	BAL Report 2034075
Work Order ID:	Time:	1501
Project ID:		

	Contact: Vandy Pract Phone: 503.239.8199 Portad, 02.9704 Email: Voratt Casins.um Email Receipt Confirmation? ((es/No)														
Requested TAT (business days)	Collect	ion	Cli	ent Sampl	e Info				ВА	L Anal	yses F	Require	ed		Comments
Dusiness days)  20 (standard) 15* 10* 5* Other *Surcharges may apply to expedited TATs	Date	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCI/HNO <sub>3</sub> /Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) Inorg, III, V, MMA, DMA	Se Species (specify) Se(VI), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)	
Sample ID  1 Mu -04D 127 137				Z	ii C	<b>ਦ</b> ∃	Ĕ	Σ	<u>S</u>	ŽΣ	တ္က တိ	ΙĒ	N N	0 1	Specify Here
2 MW-04D-18.6-19.6	1000	1400	Soil	l									X		
3 4 5															
6															
8															
9															
10															
Trip Blank		- 1													
Relinquished By:	✓ Date	3/20	70 Time	1200	Re	elinquis	hed B	y:				Di	ate:		Time:
Received By:	□ Date	:B 20	70 Time	:1501	To	tal Nu	mber o	of Pac	kages:						
Page 2 of 2 List H	Page 2 of 2 List Hazardous Contaminants: samples@brooksapplied.com   brooksapplied.com														



Client:

# **Chain-of-Custody Form**

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

PO Number:

Received by:  Work Order ID:  Project ID:	Date:   BAL Report 2034075
Mailing Address: 55 SN Yank	Will St. Str 200

Contact: Randy Pract Phone: \$503.239.8799  Client Project ID: Weylo Everatt Email: V pract & gs i ws, who samples Collected By: Gs i BAL PM: Elizabeth Murdoch / Amy											)				
Requested TAT (business days)	Collecti	on	Clien	t Sample	Info				ВА	L Anal	yses R	Require	∍d	J	Comments
□ 20 (standard) □ 15* □ 10* □ 5* □ Other *Surcharges may apply to expedited TATs	Date	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCI/HNO₃/Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)	
Sample ID				Ž	正と	<b>₫</b> ∺	ĭ	Σ	0)	A S	လ္က လ	证	9-1	ō l	Specify Here
	8/19/2020		Soil	1									X		
2 MW-060_9.3-10	1	1530	1										X		
3 MW-06D-12-13		1315		1									X		
4 MW-060_18.1-19.1	V	1545		1									X		
5 MN-05D- 4.2-S.Z	8/2020	830											X		
6 MW-05D-4.5-7.5		930		-1									X		
7 MW-05D-118-12.8		935		1									×		
8 MU-05D 188-19.8		940		(									×		
9 MW-04D-4.8-5.8		1240		l									X		
10 MW-04D_7.5-8.4	4	1350	1	1									×		
Trip Blank							×						C B		
Relinquished By: Texas Fix	₩ Date	: 0/20/1	Time:	1900	Re	elinquis	hed B	y:		٠		Da	ate:		Time:
Received By:	Date	: 8 20 2	Time:	1501	Тс	tal Nu	nber c	of Pac	kages:						•
Page of 2 List H	Page 1 of 2 List Hazardous Contaminants: samples@brooksapplied.com  brooksapplied.com														

# APEX LABS BROOKS

### CHAIN OF CUSTODY

	BAL Report 2034075
Lab #	COCof

2232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333																					PO#	#				
Company: GS1			Project N	∕lgr: ₹	Zani	dy	Pn	th.	_			Proje	ect Na	ıme:	Ne	1(t	E	ves	ctt		Proje	ect#				
Address: 55 SN Yamhill St.	Ste	200,	PORTO	nd,	OR	g	204		Phon			39.	B79	79	Fax:	9			Emai	1: <b>V</b>	PY	att	F60	Sil	.20	com
Sampled by: GS1								uy "	14							ANA	LYSI	S RE	QUEST		8 1					
Site Location: OR WA Other:	LAB ID#	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOCs Full List	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHS	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sh, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mu, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200-COLS	1200-Z	Archive				
MW-02P_16-17	_	8/11/20		S	#	2	4		- OC	00	90	90	00	•	90	9	<u> </u>		A O H S I			X			$\top$	
MW-02D_21-22		1	1555	1	1																	X				
MN-03D-16-17		818/20	1015		1																	X				
MW-03D_22-23		1	1020		l																	X				
MW-01D-7.1-8.1		A	1520		1																	X				
MW-01D_12-13		8/4/20	750		1																	X				
MN-010-16.5-17.5			955		1																	X				
MW-01D-22.5-235		V	800	1	1																	X				
																						X				
)																										
Normal Turn Around Time (TAT) = 10 Busine	ess Da	ys		YES		NO					SPE	CIAL	INST	ΓRUC	TION	IS:	-010	_	waiting	do	0	ther	tes	+ K	sul	t <u>s</u> .
	1 Da	y	2 Day		3 Day	y					ft	<b>LCh</b>	1100	_ a	W	yın	Ma	ת מנו	ACIE							
TAT Requested (circle)	4 DA	Y	5 DAY		Othe	er:					b	efor	re	fu	M	21	ar	qu'	waiting ysis							
	ES AR	E HELD	FOR 30 I								DEL	INON	LCTYPI	D. IDAZ					BEC		. Th 3.7					
RELINQUISHED BY:		alial	RECEIV			01			12		1	_	ISHEI	D B Y :					RECI	EIVED	вч:					
Signature:	Signature: Runt Date: 8/19/2 Signature: Seneur Shilvya Date: 8/19							120	Sign	ature:						Date	: Signat	иге;				Date:				
Printed Name: Kenee tale	V as Es her com								00	Print	ed Na	me:					Time	: Printe	d Name	e:			Time:			
Company:									ıpany:							Comp	any:									



Client:

# **BROOKS** Chain-of-Custody Form

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

PO Number:

Received by: Spe	For BAL use only neer Muya Date:	BAL Report 2034075 8 21 20
Work Order ID:	Time:	
Project ID:		
Mailing Address:	55 SN Yambull.	St, Stc 200

Contact: Randy Fratt Phone: 503.239.6799  Client Project ID: Weyer Everett Email: V prattegs Ws. wm Email Receipt Confirmation? (Yes/No)  Samples Collected By: BAL PM: Amy																	
Requested TAT (business days)	Co	ollecti	on	Clie	ent Sampl	e Info				ВА	L Anal	yses F	Require	ed	130	Comments	
20 (standard) 15* 10* 5* Other	Date	2	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCI/HNO₃/Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) Inorg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)		
Sample ID					Z	Ēζ	로포	Ĕ	Σ	) (s	ĄŽ	S S	ΙĪ	0	0	Specify Here	
1 MW-07D_ 6.1-7.1	8/21	200		Soil	1									X			
2 MW-07D-11-12			825		1									X			
3 MN-07D-155-165			835											X			
4 MW-07D-21.5-22.5			840											X			
5 MW-100-6.5-7.5			1040											X			
6 MU-100 - 13.5-145			1115											X			
7 MW-10D-189-199			1120											X			
8 MW-100-27.5-285	$\downarrow$		1140		1									X			
9				1										/			
10																	
Trip Blank																	
Relinquished By:		Date	8/21	720 Time:	1310	Re	elinquis	hed B	y: 🏖	nenele	Stelle	yo-	Di	ate:8/	21/20	Time: (3:10	)
Received By: Server &	nleys	Date	:8/21	/20 Time:	13:10					kages:							
Pageof List Hazardous Contaminants: samples@brooksapplied.com  brooksapplied.com																	

18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

March 12, 2021

GSI Water Solutions Inc. ATTN: Randy Pratt 55 SW Yamhill St., Suite 300 Portland, OR 97204 rpratt@gsiws.com

(Batch Adsorption Test Results)

RE: Project GSI-PR2001

Client Project: Everett As Speciation

Dear Mr. Randy Pratt

Brooks Applied Labs (BAL) received twenty-eight (28) soil samples on August 19, 2020 through August 21, 2020. The samples were received in acceptable condition in three coolers at temperatures of -0.1°C, -30°C, and -0.1°C. Sample 'MW-03D\_16-17' was received in a sampling bag with a puncture. BAL transferred this sample to a new Mylar bag after receipt. Per the chains-of-custody, all samples were placed on hold upon receipt.

On October 12, 2020, the client selected eleven (11) samples to be tested by BAL. These soil samples were removed from storage and logged in for % total solids and Batch Adsorption testing procedure as described in EPA's *Batch Type Procedures for Estimating Soil Adsorption of Chemicals* (EPA 530/SW-87/006-F, April 1992), and total recoverable Arsenic analysis via EPA 1638 mod. This report only contains the results for the eleven samples selected for these analyses.

These selected samples were also logged in for total recoverable arsenic [As], iron [Fe], and manganese [Mn] analysis. Additionally, a five-step selective sequential extraction (SSE) method, based on *Wenzel et al.*, was employed for correlation between metals (arsenic [As] iron [Fe], and manganese [Mn]) and different substrate properties. These soil samples were also logged-in for arsenic speciation analyses, including arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], and dimethylarsinic acid [DMAs]. This portion of the project was logged in under BAL work order 2034075 and will be reported separately.

All samples were stored and prepped anoxically in an oxygen free glove box. All samples were received, prepared, analyzed, and stored according to BAL SOPs and EPA methodology.

#### Batch Adsorption Testing (BAT)

Prior to the BAT, the soil sample was dried in a glove box maintained under anoxic conditions and then sieved using a 2mm mesh size. An aliquot of each sieved sample was then taken for dry weight determination; in accordance with the BAT protocol, the resulting dry weights were used to calculate the appropriate sample masses required for the testing. All subsequent testing was performed on the original sieved sample portions.

In accordance with the client's request, a synthetic groundwater solution consisting of deoxygenated 0.04 M NaCl (pH near 6.6) will be spiked to contain approximately 1 mg/L of arsenite. Due to the possibility that pH will drift over time in the synthetic groundwater, the following procedure was implemented:

- 1. Adjust pH to 6.6 using HCl and wait 24 hours.
- 2. Record pH and re-adjust if necessary and wait another 30 minutes
- 3. Record the initial pH prior to testing.

An aliquot of this original spiked synthetic groundwater will be split into a separate container, acidified to a pH < 2 with nitric acid, and then reserved for analysis for determination of the initial As concentration; this aliquot will be identified as Synthetic Ground Water - Spiked 0.04M NaCl (2045005-62) in the reported results.

Aliquots of the spiked synthetic groundwater were also added to empty sample containers and extracted alongside the client samples to monitor for potential losses during the extraction procedure. These fractions are identified as method blank samples in the attached *Accuracy and Precision* tables.

Aliquots of the remaining spiked synthetic groundwater will be added to an appropriate mass of each sample to achieve the requested soil-to-solution ratios of 1:4, 1:10, 1:50, and 1:200. All prepared samples were then placed on a rotary tumbler (kept inside the glove box) and allowed to tumble for 168 hours. Additionally, aliquots of two pre-selected samples were also extracted at a 1:50 soil-to-solution ratio for both 48 hours and 96 hours.

After the designed equilibration time had elapsed an aliquot of each resulting extract was filtered  $(0.45\mu m)$ , acidified to a pH < 2 with nitric acid, and then reserved for dissolved As analysis. The remaining extract for each sample was evaluated for pH and temperature.

#### pH and Temperature Measurements

The pH of all extracts was measured via a modified SM2540B using a calibrated pH electrode.

The measured values for pH and temperature are included in the results section of the report.

#### Total Metals Quantitation of the BAT Extracts

An aliquot of each extract was directly analyzed for As using inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). The ICP-QQQ-MS uses advanced interference removal techniques to ensure accuracy of the sample results. For more information, please visit the *Interference Reduction Technology* section on our website.

Due to the nature of the BAT, no matrix spikes could be performed during the extraction procedure. Instead, analytical spikes (designated as B21xxx-PSx) were prepared at the time of analysis to demonstrate the accuracy of the analyses.

The results are reported using a BAT (Solids) basis, where the masses and volumes used in the batch absorption tumbling step are factored into the final results (Batch B203291). The results are also reported by BAT (Aqueous) basis, where the final results are reported using the values obtained by direct analysis of the filtered aqueous fractions from the batch absorption test (Batch B210002).

Arsenic recoveries for all method blanks and blank spike samples were within acceptable ranges.

The results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification and all associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report.

Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Amy Goodall

Project Manager

**Brooks Applied Labs** 

Amy@brooksapplied.com

BAL Report 2045005

Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)



#### Report Information

#### **Laboratory Accreditation**

BAL is accredited by the National Environmental Laboratory Accreditation Program (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations /certifications, please visit our website at <a href="http://www.brooksapplied.com/resources/certificates-permits/">http://www.brooksapplied.com/resources/certificates-permits/</a> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

#### Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

#### **Common Abbreviations**

AR	as received	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

#### **Definition of Data Qualifiers**

(Effective 3/23/2020)

- An estimated value due to the presence of interferences. A full explanation is presented in the narrative. Ε
- Н Holding time and/or preservation requirements not met. Please see narrative for explanation.
- Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
- J-1 Estimated value. A full explanation is presented in the narrative.

Project ID: GSI-PR2001 (Everett As Speciation

PM: Amy Goodall

- Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation. М
- Spike recovery was not within acceptance criteria. Please see narrative for explanation.
- R Rejected, unusable value. A full explanation is presented in the narrative.
- Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL. u
- Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. X Result is estimated.
- Z Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the <u>USEPA Contract Laboratory Program National Functional Guidelines for Inorganic</u> Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
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#### **Accreditation Information**

#### Table 1. Accredited method/matrix/analytes for TNI

Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)
Issued on: July 27, 2020; Valid to: June 30, 2021

Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
BAL-5000	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness

BAL Report 2045005

Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As

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Project ID: GSI-PR2001 (Everett As Speciation

PM: Amy Goodall

#### **Accreditation Information**

Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)

Issued by: ANAB

Issued on: November 20, 2020; Valid to: March 20, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Tl, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod	Non-Potable Waters	Inorganic Arsenic, As(III) (ISO Only)	Not Accredited
BAL-3300	Biological/Food Solids/Chemicals	Inorganic Arsenic (ISO Only)	Not Accredited
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
BAL-4100	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II) (ISO Only)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

<sup>(1)</sup> ISO/IEC 17025:2017 - Certificate Number ADE-1447.2

<sup>(2)</sup> Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1

<sup>(3)</sup> Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
MW-04D_12.7-13.7	2045005-01	Soil/Sediment	Sample	08/20/2020	08/21/2020
	2045005-02	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3-10	2045005-03	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12-13	2045005-04	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-05D_4.5-5.2	2045005-05	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5-7.5	2045005-06	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_11.8-12.8	2045005-07	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8-5.8	2045005-08	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5-8.4	2045005-09	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-03D_22-23	2045005-10	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-07D_6.1-7.1	2045005-11	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-04D_12.7_13.7_1:4 168 hrs	2045005-12	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_12.7_13.7_1:10 168 hrs	2045005-13	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_12.7_13.7_1:50 168 hrs	2045005-14	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_12.7_13.7_1:200 168 hrs	2045005-15	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_12.7_13.7_1.50 48 hrs	2045005-16	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_12.7_13.7_1.50 96 hrs	2045005-17	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-06D_6.7_7.7_1:4 168 hrs	2045005-18	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_6.7_7.7_1:10 168 hrs	2045005-19	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_6.7_7.7_1:50 168 hrs	2045005-20	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_6.7_7.7_1:200 168 hrs	2045005-21	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3_10_1:4 168 hrs	2045005-22	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3_10_1:10 168 hrs	2045005-23	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3_10_1:50 168 hrs	2045005-24	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_9.3_10_1:200 168 hrs	2045005-25	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12_13_1:4 168 hrs	2045005-26	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12_13_1:10 168 hrs	2045005-27	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12_13_1:50 168 hrs	2045005-28	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-06D_12_13_1:200 168 hrs	2045005-29	Soil/Sediment	Sample	08/19/2020	08/21/2020
MW-05D_4.5_5.2_1:4 168 hrs	2045005-30	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_4.5_5.2_1:10 168 hrs	2045005-31	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_4.5_5.2_1:50 168 hrs	2045005-32	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_4.5_5.2_1:200 168 hrs	2045005-33	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5_7.5_1:4 168 hrs	2045005-34	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5_7.5_1:10 168 hrs	2045005-35	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5_7.5_1:50 168 hrs	2045005-36	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_6.5_7.5_1:200 168 hrs	2045005-37	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_11.8_12.8_1:4 168 hrs	2045005-38	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_11.8_12.8_1:10 168 hrs	2045005-39	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-05D_11.8_12.8_1:50 168 hrs	2045005-40	Soil/Sediment	Sample	08/20/2020	08/21/2020

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

#### Sample Information

Sample	Lab ID	Report Matrix	Туре	Sampled	Received
MW-05D_11.8_12.8_1:200 168 hrs	2045005-41	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8_5.8_1:4 168 hrs	2045005-42	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8_5.8_1:10 168 hrs	2045005-43	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8_5.8_1:50 168 hrs	2045005-44	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8_5.8_1:200 168 hrs	2045005-45	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5_8.4_1:4 168 hrs	2045005-46	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5_8.4_1:10 168 hrs	2045005-47	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5_8.4_1:50 168 hrs	2045005-48	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_7.5_8.4_1:200 168 hrs	2045005-49	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-03D_22_23_1:4 168 hrs	2045005-50	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-03D_22_23_1:10 168 hrs	2045005-51	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-03D_22_23_1:50 168 hrs	2045005-52	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-03D_22_23_1:200 168 hrs	2045005-53	Soil/Sediment	Sample	08/18/2020	08/21/2020
MW-07D_6.1_7.1_1:4 168 hrs	2045005-54	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_6.1_7.1_1:10 168 hrs	2045005-55	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_6.1_7.1_1:50 168 hrs	2045005-56	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_6.1_7.1_1:200 168 hrs	2045005-57	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_6.1_7.1_1:50 48 hrs	2045005-58	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-07D_6.1_7.1_1:50 96 hrs	2045005-59	Soil/Sediment	Sample	08/21/2020	08/21/2020
MW-04D_4.8_5.8_1:50 48hrs	2045005-60	Soil/Sediment	Sample	08/20/2020	08/21/2020
MW-04D_4.8_5.8_1:50 96hrs	2045005-61	Soil/Sediment	Sample	08/20/2020	08/21/2020
Synthetic Ground Water	2045005-62	Water	Equip. Blank	02/15/2021	11/02/2020

#### **Batch Summary**

Analyte	<b>Lab Matrix</b>	Method	Prepared	<b>Analyzed</b>	Batch	Sequence
%TS	Soil/Sediment	SOP BAL-0501	12/10/2020	12/11/2020	B210003	N/A
%TS	Soil/Sediment	SOP BAL-0501	02/11/2021	02/12/2021	B210007	N/A
As(BAT)	Soil/Sediment	EPA 6020B Mod	02/15/2021	02/25/2021	B203291	2100004
As(BAT)	Soil/Sediment	EPA 6020B Mod	02/15/2021	02/25/2021	B210002	2100004
As(BAT)	Soil/Sediment	EPA 6020B Mod	02/15/2021	03/05/2021	B210002	2100005

BAT = Batch Absorption Testing

B210002: BAT Results in terms of ug/L (i.e., direct analysis of BAT fractions).

B203291: BAT Results in terms of mg/kg dry (i.e., mass employed in BAT and %TS used

to calculate results).

BAL Report 2045005

Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As





Project ID: GSI-PR2001 (Everett As Speciation

PM: Amy Goodall

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-04D_12.7_	13.7 1:4 168 I	hrs								
2045005-12	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-12	As(BAT)	Soil/Sediment	dry	0.709		0.032	0.320	mg/kg	B203291	2100004
2045005-12	As(BAT)	Soil/Sediment	dry	177		0.100	1.00	μg/L	B210002	2100004
	( )		,					1 3		
MW-04D_12.7_	13.7 1:10 168	hrs								
2045005-13	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-13	As(BAT)	Soil/Sediment	dry	1.20		0.080	0.797	mg/kg	B203291	2100004
2045005-13	As(BAT)	Soil/Sediment	dry	120		0.100	1.00	μg/L	B210002	2100004
	, ,		•							
MW-04D_12.7_	13.7_1:50 168	hrs								
2045005-14	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-14	As(BAT)	Soil/Sediment	dry	15.3		0.378	3.78	mg/kg	B203291	2100004
2045005-14	As(BAT)	Soil/Sediment	dry	324		0.100	1.00	μg/L	B210002	2100004
MW-04D_12.7_	13.7_1:200 16	8 hrs								
2045005-15	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-15	As(BAT)	Soil/Sediment	dry	153		1.56	15.6	mg/kg	B203291	2100004
2045005-15	As(BAT)	Soil/Sediment	dry	785		0.100	1.00	μg/L	B210002	2100004
MW-04D_12.7_	13.7_1.50 48 F	nrs								
2045005-16	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-16	As(BAT)	Soil/Sediment	dry	30.0		0.366	3.66	mg/kg	B203291	2100004
2045005-16	As(BAT)	Soil/Sediment	dry	656		0.100	1.00	μg/L	B210002	2100004
MW-04D_12.7_	_									
2045005-17	%TS	Soil/Sediment	NA	99.86		0.02	0.06	%	B210007	N/A
2045005-17	As(BAT)	Soil/Sediment	dry	28.3		0.399	3.99	mg/kg	B203291	2100004
2045005-17	As(BAT)	Soil/Sediment	dry	567		0.100	1.00	μg/L	B210002	2100004
1414,000,00	<b>7</b> 4 4 400 L									
MW-06D_6.7_7	_		NIA	00.07		0.02	0.05	0/	D240007	NI/A
2045005-18	%TS	Soil/Sediment	NA day	99.87		0.02	0.05	%	B210007	N/A
2045005-18	As(BAT) As(BAT)	Soil/Sediment	dry	0.771		0.032 0.100	0.320 1.00	mg/kg	B203291	2100004
2045005-18	AS(DAT)	Soil/Sediment	dry	193		0.100	1.00	μg/L	B210002	2100004
MW-06D_6.7_7	7 1·10 162 hi	re								
2045005-19	. <i>r_1.10 100111</i> %TS	Soil/Sediment	NA	99.87		0.02	0.05	%	B210007	N/A
2045005-19	As(BAT)	Soil/Sediment	dry	3.26		0.080	0.796	mg/kg	B203291	2100004
2045005-19	As(BAT)	Soil/Sediment	dry	328		0.100	1.00	µg/kg	B210002	2100004
20-0000-10	, 15(B, 11)	2011, 2341110111	ω. <i>y</i>	020		3.100		r9′-	D0002	2100007

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-06D_6.7_7.7	_1:50 168 hrs	;								
2045005-20	%TS	Soil/Sediment	NA	99.87		0.02	0.05	%	B210007	N/A
2045005-20	As(BAT)	Soil/Sediment	dry	34.2		0.383	3.83	mg/kg	B203291	2100004
2045005-20	As(BAT)	Soil/Sediment	dry	716		0.100	1.00	μg/L	B210002	2100004
MW-06D_6.7_7.7	' 1:200 168 hi	rs								
2045005-21	- %TS	Soil/Sediment	NA	99.87		0.02	0.05	%	B210007	N/A
2045005-21	As(BAT)	Soil/Sediment	dry	166		1.50	15.0	mg/kg	B203291	2100004
2045005-21	As(BAT)	Soil/Sediment	dry	883		0.100	1.00	μg/L	B210002	2100004
MW-06D_9.3_10	_1:4 168 hrs									
2045005-22	%TS	Soil/Sediment	NA	99.48		0.03	0.09	%	B210007	N/A
2045005-22	As(BAT)	Soil/Sediment	dry	1.90		0.032	0.319	mg/kg	B203291	2100004
2045005-22	As(BAT)	Soil/Sediment	dry	477		0.100	1.00	μg/L	B210002	2100004
MW-06D_9.3_10	_1:10 168 hrs									
2045005-23	- %TS	Soil/Sediment	NA	99.48		0.03	0.09	%	B210007	N/A
2045005-23	As(BAT)	Soil/Sediment	dry	5.13		0.081	0.806	mg/kg	B203291	2100004
2045005-23	As(BAT)	Soil/Sediment	dry	509		0.100	1.00	μg/L	B210002	2100004
MW-06D_9.3_10	1:50 168 hrs									
2045005-24	- %TS	Soil/Sediment	NA	99.48		0.03	0.09	%	B210007	N/A
2045005-24	As(BAT)	Soil/Sediment	dry	35.4		0.383	3.83	mg/kg	B203291	2100004
2045005-24	As(BAT)	Soil/Sediment	dry	739		0.100	1.00	μg/L	B210002	2100004
MW-06D_9.3_10	_1:200 168 hrs	s								
2045005-25	%TS	Soil/Sediment	NA	99.48		0.03	0.09	%	B210007	N/A
2045005-25	As(BAT)	Soil/Sediment	dry	145		1.43	14.3	mg/kg	B203291	2100004
2045005-25	As(BAT)	Soil/Sediment	dry	814		0.100	1.00	μg/L	B210002	2100004
MW-06D_12_13_	1:4 168 hrs									
2045005-26	%TS	Soil/Sediment	NA	99.83		0.03	0.08	%	B210007	N/A
2045005-26	As(BAT)	Soil/Sediment	dry	0.489		0.032	0.320	mg/kg	B203291	2100004
2045005-26	As(BAT)	Soil/Sediment	dry	122		0.100	1.00	μg/L	B210002	2100004

PM: Amy Goodall



BAL Report 2045005 **Client PM:** Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-06D_12_1	3_1:10 168 hrs									
2045005-27	- %TS	Soil/Sediment	NA	99.83		0.03	0.08	%	B210007	N/A
2045005-27	As(BAT)	Soil/Sediment	dry	2.25		0.079	0.790	mg/kg	B203291	2100004
2045005-27	As(BAT)	Soil/Sediment	dry	228		0.100	1.00	μg/L	B210002	2100004
MW-06D_12_1	3_1:50 168 hrs									
2045005-28	%TS	Soil/Sediment	NA	99.83		0.03	0.08	%	B210007	N/A
2045005-28	As(BAT)	Soil/Sediment	dry	27.5		0.368	3.68	mg/kg	B203291	2100004
2045005-28	As(BAT)	Soil/Sediment	dry	597		0.100	1.00	μg/L	B210002	2100004
	3_1:200 168 hr			00.00		0.00	0.00	0/	D040007	
2045005-29	%TS	Soil/Sediment	NA	99.83		0.03	0.08	%	B210007	N/A
2045005-29	As(BAT)	Soil/Sediment	dry	172		1.57	15.7	mg/kg	B203291	2100004
2045005-29	As(BAT)	Soil/Sediment	dry	874		0.100	1.00	μg/L	B210002	2100004
MW-05D 4.5 !	5.2_1:4 168 hrs									
2045005-30	%TS	Soil/Sediment	NA	99.85		0.02	0.05	%	B210007	N/A
2045005-30	As(BAT)	Soil/Sediment	dry	0.234	J	0.032	0.320	mg/kg	B203291	2100004
2045005-30	As(BAT)	Soil/Sediment	dry	58.3	· ·	0.100	1.00	μg/L	B210002	2100004
MW-05D_4.5_5	5.2_1:10 168 hr	s								
2045005-31	- %TS	Soil/Sediment	NA	99.85		0.02	0.05	%	B210007	N/A
2045005-31	As(BAT)	Soil/Sediment	dry	1.22		0.081	0.813	mg/kg	B203291	2100004
2045005-31	As(BAT)	Soil/Sediment	dry	120		0.100	1.00	μg/L	B210002	2100004
	5.2_1:50 168 hr			00.05		0.00	0.05	0/	D040007	
2045005-32	%TS	Soil/Sediment	NA	99.85		0.02	0.05	%	B210007	N/A
2045005-32	As(BAT)	Soil/Sediment	dry	21.5		0.380	3.80	mg/kg	B203291	2100004
2045005-32	As(BAT)	Soil/Sediment	dry	452		0.100	1.00	µg/L	B210002	2100004
MW-05D 4.5	5.2 1:200 168 h	rs								
2045005-33	%TS	Soil/Sediment	NA	99.85		0.02	0.05	%	B210007	N/A
2045005-33	As(BAT)	Soil/Sediment	dry	140		1.50	15.0	mg/kg	B203291	2100004
2045005-33	As(BAT)	Soil/Sediment	dry	746		0.100	1.00	μg/L	B210002	2100004
2070000-00	, 13(2, 11)	23.,, 234311	ω, ,	0		5.100		₩ <i>9</i> , <b>–</b>	32.0002	2100004
MW-05D_6.5_7	7.5_1:4 168 hrs									
2045005-34	%TS	Soil/Sediment	NA	99.92		0.008	0.03	%	B210003	N/A
2045005-34	As(BAT)	Soil/Sediment	dry	1.82		0.032	0.320	mg/kg	B203291	2100004
2045005-34	As(BAT)	Soil/Sediment	dry	455		0.100	1.00	μg/L	B210002	2100004

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-05D_6.5_7.5	5_1:10 168 hr	s								
2045005-35	- %TS	Soil/Sediment	NA	99.92		0.008	0.03	%	B210003	N/A
2045005-35	As(BAT)	Soil/Sediment	dry	4.11		0.079	0.794	mg/kg	B203291	2100004
2045005-35	As(BAT)	Soil/Sediment	dry	414		0.100	1.00	μg/L	B210002	2100004
MW-05D_6.5_7.5	5 1:50 168 hr	s								
2045005-36	- %TS	Soil/Sediment	NA	99.92		0.008	0.03	%	B210003	N/A
2045005-36	As(BAT)	Soil/Sediment	dry	36.7		0.384	3.84	mg/kg	B203291	2100004
2045005-36	As(BAT)	Soil/Sediment	dry	765		0.100	1.00	μg/L	B210002	2100004
MW-05D_6.5_7.	5 1:200 168 h	ırs								
2045005-37	- %TS	Soil/Sediment	NA	99.92		0.008	0.03	%	B210003	N/A
2045005-37	As(BAT)	Soil/Sediment	dry	136		1.46	14.6	mg/kg	B203291	2100004
2045005-37	As(BAT)	Soil/Sediment	dry	747		0.100	1.00	μg/L	B210002	2100004
MW-05D_11.8_1	2.8 1:4 168 h	rs								
2045005-38	- %TS	Soil/Sediment	NA	99.99		0.004	0.01	%	B210003	N/A
2045005-38	As(BAT)	Soil/Sediment	dry	0.586		0.032	0.317	mg/kg	B203291	2100004
2045005-38	As(BAT)	Soil/Sediment	dry	148		0.100	1.00	μg/L	B210002	2100004
MW-05D_11.8_1	2.8 1:10 168 <b>.</b>	hrs								
2045005-39	- %TS	Soil/Sediment	NA	99.99		0.004	0.01	%	B210003	N/A
2045005-39	As(BAT)	Soil/Sediment	dry	1.74		0.078	0.777	mg/kg	B203291	2100004
2045005-39	As(BAT)	Soil/Sediment	dry	179		0.100	1.00	μg/L	B210002	2100004
MW-05D_11.8_1	2.8 1:50 168	hrs								
2045005-40	- %TS	Soil/Sediment	NA	99.99		0.004	0.01	%	B210003	N/A
2045005-40	As(BAT)	Soil/Sediment	dry	29.5		0.390	3.90	mg/kg	B203291	2100004
2045005-40	As(BAT)	Soil/Sediment	dry	606		0.100	1.00	μg/L	B210002	2100004
MW-05D_11.8_1	2.8_1:200 168	3 hrs								
2045005-41	- %TS	Soil/Sediment	NA	99.99		0.004	0.01	%	B210003	N/A
2045005-41	As(BAT)	Soil/Sediment	dry	160		1.47	14.7	mg/kg	B203291	2100004
2045005-41	As(BAT)	Soil/Sediment	dry	868		0.100	1.00	μg/L	B210002	2100004

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-04D_4.8_5	5.8_1:4 168 hrs	;								
2045005-42	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-42	As(BAT)	Soil/Sediment	dry	0.409		0.031	0.314	mg/kg	B203291	2100004
2045005-42	As(BAT)	Soil/Sediment	dry	104		0.100	1.00	μg/L	B210002	2100004
MW-04D_4.8_5								0.4		
2045005-43	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-43	As(BAT)	Soil/Sediment	dry	2.77		0.080	0.795	mg/kg	B203291	2100004
2045005-43	As(BAT)	Soil/Sediment	dry	279		0.100	1.00	μg/L	B210002	2100004
MW-04D_4.8_5	5.8 1:50 168 hr	's								
2045005-44	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-44	As(BAT)	Soil/Sediment	dry	35.1		0.389	3.89	mg/kg	B203291	2100004
2045005-44	As(BAT)	Soil/Sediment	dry	723		0.100	1.00	μg/L	B210002	2100004
MW-04D_4.8_5	_									
2045005-45	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-45	As(BAT)	Soil/Sediment	dry	144		1.37	13.7	mg/kg	B203291	2100004
2045005-45	As(BAT)	Soil/Sediment	dry	845		0.100	1.00	μg/L	B210002	2100004
MW-04D_7.5_8	3.4 1:4 168 hrs	<b>;</b>								
2045005-46	- %TS	Soil/Sediment	NA	99.81		0.009	0.03	%	B210003	N/A
2045005-46	As(BAT)	Soil/Sediment	dry	0.608		0.032	0.316	mg/kg	B203291	2100004
2045005-46	As(BAT)	Soil/Sediment	dry	154		0.100	1.00	μg/L	B210002	2100004
MW-04D_7.5_8	_							0.4		
2045005-47	%TS	Soil/Sediment	NA	99.81		0.009	0.03	%	B210003	N/A
2045005-47	As(BAT)	Soil/Sediment	dry	1.90		0.080	0.805	mg/kg	B203291	2100004
2045005-47	As(BAT)	Soil/Sediment	dry	189		0.100	1.00	μg/L	B210002	2100004
MW-04D_7.5_8	3.4 1:50 168 hr	's								
2045005-48	%TS	Soil/Sediment	NA	99.81		0.009	0.03	%	B210003	N/A
2045005-48	As(BAT)	Soil/Sediment	dry	13.3		0.406	4.06	mg/kg	B203291	2100004
2045005-48	As(BAT)	Soil/Sediment	dry	262		0.100	1.00	μg/L	B210002	2100004
MW-04D_7.5_8	_									
2045005-49	%TS	Soil/Sediment	NA	99.81		0.009	0.03	%	B210003	N/A
2045005-49	As(BAT)	Soil/Sediment	dry	33.9		1.52	15.2	mg/kg	B203291	2100004
2045005-49	As(BAT)	Soil/Sediment	dry	178		0.100	1.00	μg/L	B210002	2100004

PM: Amy Goodall



BAL Report 2045005 **Client PM:** Randy Pratt

Client Project: GSI-PR2001 (Everett As

Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-03D_22_23	_1:4 168 hrs									
2045005-50	%TS	Soil/Sediment	NA	100.0		0.003	0.01	%	B210003	N/A
2045005-50	As(BAT)	Soil/Sediment	AR	0.480		0.032	0.320	mg/kg	B203291	2100004
2045005-50	As(BAT)	Soil/Sediment	AR	120		0.100	1.00	μg/L	B210002	2100004
MW-03D_22_23	1:10 168 hrs									
2045005-51	_ %TS	Soil/Sediment	NA	100.0		0.003	0.01	%	B210003	N/A
2045005-51	As(BAT)	Soil/Sediment	AR	2.53		0.079	0.790	mg/kg	B203291	2100004
2045005-51	As(BAT)	Soil/Sediment	AR	256		0.100	1.00	μg/L	B210002	2100004
MW-03D_22_23	1:50 168 hrs									
2045005-52	%TS	Soil/Sediment	NA	100.0		0.003	0.01	%	B210003	N/A
2045005-52	As(BAT)	Soil/Sediment	AR	39.0		0.411	4.11	mg/kg	B203291	2100004
2045005-52	As(BAT)	Soil/Sediment	AR	759		0.100	1.00	μg/L	B210002	2100004
MW-03D 22 23	1:200 168 hr	'S								
2045005-53	%TS	Soil/Sediment	NA	100.0		0.003	0.01	%	B210003	N/A
2045005-53	As(BAT)	Soil/Sediment	AR	175		1.57	15.7	mg/kg	B203291	2100004
2045005-53	As(BAT)	Soil/Sediment	AR	894		0.100	1.00	μg/L	B210002	2100004
MW-07D_6.1_7.	1 1:4 168 hrs									
2045005-54	%TS	Soil/Sediment	NA	99.95		0.008	0.03	%	B210003	N/A
2045005-54	As(BAT)	Soil/Sediment	dry	1.91		0.032	0.320	mg/kg	B203291	2100004
2045005-54	As(BAT)	Soil/Sediment	dry	478		0.100	1.00	μg/L	B210002	2100004
MW-07D_6.1_7.	1 1:10 168 hr	'S								
2045005-55	%TS	Soil/Sediment	NA	99.95		0.008	0.03	%	B210003	N/A
2045005-55	As(BAT)	Soil/Sediment	dry	4.49		0.080	0.795	mg/kg	B203291	2100004
2045005-55	As(BAT)	Soil/Sediment	dry	452		0.100	1.00	μg/L	B210002	2100004
MW-07D_6.1_7.	1 1:50 168 hr	'S								
2045005-56	- %TS	Soil/Sediment	NA	99.95		0.008	0.03	%	B210003	N/A
2045005-56	As(BAT)	Soil/Sediment	dry	28.8		0.391	3.91	mg/kg	B203291	2100004
2045005-56	As(BAT)	Soil/Sediment	dry	589		0.100	1.00	μg/L	B210002	2100004

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt

Client Project: GSI-PR2001 (Everett As Speciation)

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MW-07D_6.1_7.1	_1:200 168 h	rs								
2045005-57	%TS	Soil/Sediment	NA	99.95		0.008	0.03	%	B210003	N/A
2045005-57	As(BAT)	Soil/Sediment	dry	179		1.62	16.2	mg/kg	B203291	2100004
2045005-57	As(BAT)	Soil/Sediment	dry	885		0.100	1.00	μg/L	B210002	2100004
MW-04D_4.8_5.8	_1:50 48hrs									
2045005-60	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-60	As(BAT)	Soil/Sediment	dry	39.1		0.396	3.96	mg/kg	B203291	2100004
2045005-60	As(BAT)	Soil/Sediment	dry	790		0.100	1.00	μg/L	B210002	2100004
MW-04D_4.8_5.8	_1:50 96hrs									
2045005-61	%TS	Soil/Sediment	NA	99.95		0.004	0.01	%	B210003	N/A
2045005-61	As(BAT)	Soil/Sediment	dry	37.9		0.406	4.06	mg/kg	B203291	2100004
2045005-61	As(BAT)	Soil/Sediment	dry	746		0.100	1.00	μg/L	B210002	2100004
Synthetic Groun	d Water									
2045005-62	As(BAT)	Water	TR	1000		0.100	1.00	μg/L	B210002	2100005

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Sample Results

#### pH Measurements Summary

Sample ID	pН	Temp (°C)
B210002-BLK1 (48 hrs)	5.57	22.0
B210002-BLK2 (96hrs)	5.00	21.4
B210002-BLK3 (168hrs)	5.97	21.5
B210002-BLK4 (168hrs)	6.04	21.4
2045005-12	6.60	21.2
2045005-13	6.50	21.1
2045005-14	6.44	21.1
2045005-15	6.47	21.1
2045005-16	6.13	22.1
2045005-17	6.06	21.8
2045005-18	6.72	21.1
2045005-19	6.80	21.2
2045005-20	6.64	21.4
2045005-21	6.72	21.3
2045005-22	6.53	21.3
2045005-23	6.57	21.2
2045005-24	6.65	21.5
2045005-25	6.73	21.4
2045005-26	6.60	21.2
2045005-27	6.77	21.2
2045005-28	6.67	21.4
2045005-29	6.69	21.4
2045005-30	6.72	20.9
2045005-31	6.89	20.9
2045005-32	6.77	21.2

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Sample Results

#### pH Measurements Summary

Sample ID	рН	Temp (°C)
2045005-33	6.62	21.2
2045005-34	6.95	21.1
2045005-35	7.07	21.0
2045005-36	7.04	21.2
2045005-37	6.91	21.3
2045005-38	6.64	21.1
2045005-39	6.65	21.1
2045005-40	6.62	21.3
2045005-41	6.43	21.5
2045005-42	5.77	21.1
2045005-43	5.76	21.0
2045005-44	5.70	21.3
2045005-45	5.71	21.4
2045005-46	6.53	21.2
2045005-47	6.60	21.2
2045005-48	6.26	20.9
2045005-49	6.43	21.1
2045005-50	6.93	21.2
2045005-51	7.11	21.2
2045005-52	6.96	21.2
2045005-53	6.84	21.2
2045005-54	6.67	21.2
2045005-55	6.71	21.3
2045005-56	6.80	21.4
2045005-57	6.74	21.4

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

## Sample Results

#### pH Measurements Summary

Sample ID	рН	Temp (°C)
2045005-60	5.42	22.1
2045005-61	5.49	21.8
2045005-62	6.98	15.5
B210002-DUP1	6.58	21.3
B210002-DUP2	5.82	21.3
B210002-DUP3	6.49	21.4
B210002-DUP4	6.58	21.3
B210002-DUP5	5.37	22.0

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

### Accuracy & Precision Summary

Batch: B203291

Sample B203291-DUP1	Analyte Duplicate, (2045005-22)	Native	Spike	Result	Units	REC & Limits	RPD & Limits
	As(BAT)	1.901		1.991	mg/kg		5% 30
B203291-PS1	<b>Post Spike</b> , <b>(2045005-22)</b> As(BAT)	1.901	0.9970	2.821	mg/kg	92% 75-125	
B203291-PS2	<b>Post Spike, (2045005-22)</b> As(BAT)	1.901	0.9970	2.842	mg/kg	94% 75-125	
B203291-DUP2	<b>Duplicate, (2045005-43)</b> As(BAT)	2.768		3.106	mg/kg		11% 30
B203291-PS3	<b>Post Spike</b> , <b>(2045005-43)</b> As(BAT)	2.768	2.484	5.071	mg/kg	93% 75-125	
B203291-PS4	<b>Post Spike</b> , <b>(2045005-43)</b> As(BAT)	2.768	2.484	5.212	mg/kg	98% 75-125	
B203291-DUP3	<b>Duplicate, (2045005-48)</b> As(BAT)	13.31		15.74	mg/kg		17% 30
B203291-PS5	Post Spike, (2045005-48) As(BAT)	13.31	12.70	25.71	mg/kg	98% 75-125	
B203291-PS6	<b>Post Spike</b> , <b>(2045005-48)</b> As(BAT)	13.31	12.70	25.23	mg/kg	94% 75-125	
B203291-DUP4	<b>Duplicate, (2045005-57)</b> As(BAT)	178.8		167.0	mg/kg		7% 30
B203291-PS7	Post Spike, (2045005-57) As(BAT)	178.8	50.53	226.8	mg/kg	95% 75-125	

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

### Accuracy & Precision Summary

Batch: B203291

Sample B203291-PS8	Analyte Post Spike, (2045005-57) As(BAT)	Native	Spike	Result	Units	<b>REC &amp; Limits</b>	RPD & Limits
		178.8	50.53	223.4	mg/kg	88% 75-125	
B203291-DUP5	<b>Duplicate, (2045005-60)</b> As(BAT)	39.07		37.52	mg/kg		4% 30
B203291-PS9	Post Spike, (2045005-60) As(BAT)	39.07	12.37	50.35	mg/kg	91% 75-125	
B203291-PSA	<b>Post Spike, (2045005-60)</b> As(BAT)	39.07	12.37	51.20	mg/kg	98% 75-125	

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

### Accuracy & Precision Summary

Batch: B210002

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B210002-DUP1 Duplicate, (2045005-22) As(BAT)	<b>Duplicate, (2045005-22)</b> As(BAT)	476.7		492.2	μg/L		3% 20
B210002-PS1	Post Spike, (2045005-22) As(BAT)	476.7	250.0	707.4	μg/L	92% 75-125	
B210002-PS2	<b>Post Spike, (2045005-22)</b> As(BAT)	476.7	250.0	712.7	μg/L	94% 75-125	
B210002-DUP2	<b>Duplicate, (2045005-43)</b> As(BAT)	278.6		309.2	μg/L		10% 20
B210002-PS3	<b>Post Spike</b> , <b>(2045005-43)</b> As(BAT)	278.6	250.0	510.2	μg/L	93% 75-125	
B210002-PS4	<b>Post Spike</b> , <b>(2045005-43)</b> As(BAT)	278.6	250.0	524.4	μg/L	98% 75-125	
B210002-DUP3	<b>Duplicate, (2045005-48)</b> As(BAT)	262.1		311.9	μg/L		17% 20
B210002-PS5	<b>Post Spike, (2045005-48)</b> As(BAT)	262.1	250.0	506.2	μg/L	98% 75-125	
B210002-PS6	<b>Post Spike, (2045005-48)</b> As(BAT)	262.1	250.0	496.7	μg/L	94% 75-125	
B210002-DUP4	<b>Duplicate, (2045005-57)</b> As(BAT)	884.6		867.8	μg/L		2% 20
B210002-PS7	Post Spike, (2045005-57) As(BAT)	884.6	250.0	1122	μg/L	95% 75-125	

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

### Accuracy & Precision Summary

Batch: B210002

Sample B210002-PS8	Analyte Post Spike, (2045005-57) As(BAT)	Native	Spike	Result	Units	REC & Limits	RPD & Limits
		884.6	250.0	1105	μg/L	88% 75-125	
B210002-DUP5	<b>Duplicate, (2045005-60)</b> As(BAT)	789.7		789.4	μg/L		0.04% 20
B210002-PS9	<b>Post Spike, (2045005-60)</b> As(BAT)	789.7	250.0	1018	μg/L	91% 75-125	
B210002-PSA	<b>Post Spike, (2045005-60)</b> As(BAT)	789.7	250.0	1035	μg/L	98% 75-125	

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

### Accuracy & Precision Summary

Batch: B210007

**Lab Matrix:** Soil/Sediment **Method:** SOP BAL-0501

Sample	Analyte	Native	Spike	Result	Units	<b>REC &amp; Limits</b>	<b>RPD &amp; Limits</b>
B210007-DUP1	Duplicate, (2045005-04)						
	%TS	99.83		99.88	%		0.05% 15

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

### Method Blanks & Reporting Limits

Batch: B203291 Matrix: Soil/Sediment Method: EPA 6020B Mod

Analyte: As(BAT)

Sample	Result	Units
B203291-BLK1	75.8	mg/kg
B203291-BLK2	75.1	mg/kg
B203291-BLK3	77.2	mg/kg
B203291-BLK4	75.2	mg/kg

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As Speciation)

### Method Blanks & Reporting Limits

**Batch:** B210002 **Matrix:** Soil/Sediment **Method:** EPA 6020B Mod

Analyte: As(BAT)

Sample	Result	Units
B210002-BLK1	947	μg/L
B210002-BLK2	939	μg/L
B210002-BLK3	965	μg/L
B210002-BLK4	940	μg/L

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As
Speciation)

#### Method Blanks & Reporting Limits

Batch: B210007 Matrix: Soil/Sediment Method: SOP BAL-0501

Analyte: %TS

 Sample
 Result
 Units

 B210007-BLK1
 -0.07
 %

 B210007-BLK2
 -0.05
 %

 Average: -0.06
 MDL: 0.03

 Limit: 0.10
 MRL: 0.10

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

#### Sample Containers

Lab ID: 2045005-01 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-04D 12.7-13.7 Sample Type: Sample Received: 08/21/2020 **Des Container** Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-02 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D 6.7-7.7 Sample Type: Sample Received: 08/21/2020 **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. pН Client-Provided Default Cooler -2045005 Lab ID: 2045005-03 Collected: 08/19/2020 Report Matrix: Soil/Sediment Sample: MW-06D 9.3-10 Sample Type: Sample Received: 08/21/2020 **Des Container** Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-04 Collected: 08/19/2020 Report Matrix: Soil/Sediment Sample: MW-06D 12-13 Received: 08/21/2020 Sample Type: Sample **Des Container** Size **Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-05 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 4.5-5.2 Sample Type: Sample Received: 08/21/2020 Size P-Lot **Des Container** Lot **Preservation** Ha Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-06 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 6.5-7.5 Sample Type: Sample Received: 08/21/2020 **Des Container** Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As Speciation)

Collected: 08/20/2020

Received: 08/21/2020

Collected: 08/20/2020

Received: 08/21/2020

Collected: 08/20/2020

Received: 08/21/2020

Collected: 08/18/2020

Received: 08/21/2020

Ship. Cont. Default

> Cooler -2045005

Ship. Cont.

Default Cooler -2045005

Ship. Cont.

Default Cooler -2045005

Ship. Cont.

Default Cooler -2045005

Sample Containers

Lab ID: 2045005-07

Sample: MW-05D 11.8-12.8 **Des Container** Size Lot

Size

Size

**Size** 

Size

Client-Provided

Lab ID: 2045005-08

Sample: MW-04D 4.8-5.8

**Des Container** Client-Provided

Lab ID: 2045005-09 Sample: MW-04D 7.5-8.4

**Des Container** 

Client-Provided

Lab ID: 2045005-10 Sample: MW-03D\_22-23

**Des Container** 

Client-Provided

Lab ID: 2045005-11

Sample: MW-07D 6.1-7.1 **Des Container** 

Client-Provided

Lab ID: 2045005-12

Sample: MW-04D 12.7 13.7 1:4 168 hrs Des Container Size

Client-Provided

Report Matrix: Soil/Sediment

Sample Type: Sample

**Preservation** 

Report Matrix: Soil/Sediment

Sample Type: Sample

Lot

Lot

Lot

Lot

Lot

**Preservation** 

Report Matrix: Soil/Sediment

Sample Type: Sample

**Preservation** 

Report Matrix: Soil/Sediment

Sample Type: Sample

**Preservation** 

Report Matrix: Soil/Sediment

Sample Type: Sample

Preservation

**Preservation** 

P-Lot

P-Lot

P-Lot

P-Lot

P-Lot

Collected: 08/21/2020 Received: 08/21/2020

Ship. Cont. pН

> Default Cooler -2045005

Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample Type: Sample Received: 08/21/2020

P-Lot Ship. Cont.

Default Cooler -2045005

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

#### Sample Containers

Lab ID: 2045005-13 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_12.7\_13.7\_1:10 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-14 Report Matrix: Soil/Sediment Collected: 08/20/2020 **Sample:** MW-04D\_12.7\_13.7\_1:50 168 hrs Sample Type: Sample Received: 08/21/2020 **Des Container** Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-15 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_12.7\_13.7\_1:200 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-16 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_12.7\_13.7\_1.50 48 hrs Received: 08/21/2020 Sample Type: Sample **Des Container** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-17 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D 12.7 13.7 1.50 96 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-18 Collected: 08/19/2020 Report Matrix: Soil/Sediment Sample: MW-06D 6.7 7.7 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

#### Sample Containers

Lab ID: 2045005-19 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_6.7\_7.7\_1:10 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-20 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D 6.7 7.7 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-21 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_6.7\_7.7\_1:200 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-22 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_9.3\_10\_1:4 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-23 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_9.3\_10\_1:10 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-24 Collected: 08/19/2020 Report Matrix: Soil/Sediment Sample: MW-06D 9.3 10 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

#### Sample Containers

Lab ID: 2045005-25 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D 9.3 10 1:200 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-26 Report Matrix: Soil/Sediment Collected: 08/19/2020 **Sample:** MW-06D\_12\_13\_1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-27 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_12\_13\_1:10 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-28 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_12\_13\_1:50 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-29 Report Matrix: Soil/Sediment Collected: 08/19/2020 Sample: MW-06D\_12\_13\_1:200 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-30 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-05D 4.5 5.2 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

#### Sample Containers

Lab ID: 2045005-31 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D\_4.5\_5.2\_1:10 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 **Lab ID:** 2045005-32 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 4.5 5.2 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-33 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D\_4.5\_5.2\_1:200 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-34 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D\_6.5\_7.5\_1:4 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-35 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 6.5 7.5 1:10 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-36 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-05D 6.5 7.5 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

# Sample Containers

Lab ID: 2045005-37 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 6.5 7.5 1:200 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-38 Report Matrix: Soil/Sediment Collected: 08/20/2020 **Sample:** MW-05D 11.8 12.8 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-39 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D\_11.8\_12.8\_1:10 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-40 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D\_11.8\_12.8\_1:50 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-41 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-05D 11.8 12.8 1:200 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Size Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-42 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-04D 4.8 5.8 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

# Sample Containers

Lab ID: 2045005-43 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D 4.8 5.8 1:10 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-44 Report Matrix: Soil/Sediment Collected: 08/20/2020 **Sample:** MW-04D 4.8 5.8 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-45 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_4.8\_5.8\_1:200 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-46 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_7.5\_8.4\_1:4 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-47 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D 7.5 8.4 1:10 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-48 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-04D 7.5 8.4 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

# Sample Containers

Lab ID: 2045005-49 Report Matrix: Soil/Sediment Collected: 08/20/2020 Sample: MW-04D\_7.5\_8.4\_1:200 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-50 Report Matrix: Soil/Sediment Collected: 08/18/2020 Sample: MW-03D 22 23 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-51 Report Matrix: Soil/Sediment Collected: 08/18/2020 Sample: MW-03D\_22\_23\_1:10 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-52 Report Matrix: Soil/Sediment Collected: 08/18/2020 Sample: MW-03D\_22\_23\_1:50 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-53 Report Matrix: Soil/Sediment Collected: 08/18/2020 Sample: MW-03D\_22\_23\_1:200 168 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 **Lab ID**: 2045005-54 Collected: 08/21/2020 Report Matrix: Soil/Sediment Sample: MW-07D 6.1 7.1 1:4 168 hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005
Client PM: Randy Pratt
Client Project: GSI-PR2001 (Everett As

Speciation)

2045005

# Sample Containers

Lab ID: 2045005-55 Report Matrix: Soil/Sediment Collected: 08/21/2020 Sample: MW-07D\_6.1\_7.1\_1:10 168 hrs Sample Type: Sample Received: 08/21/2020 **Preservation** P-Lot **Des Container** Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-56 Report Matrix: Soil/Sediment Collected: 08/21/2020 Sample: MW-07D 6.1 7.1 1:50 168 hrs Sample Type: Sample Received: 08/21/2020 Lot **Des Container** Size **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-57 Report Matrix: Soil/Sediment Collected: 08/21/2020 Sample: MW-07D\_6.1\_7.1\_1:200 168 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Preservation** P-Lot Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-58 Report Matrix: Soil/Sediment Collected: 08/21/2020 Sample: MW-07D\_6.1\_7.1\_1:50 48 hrs Received: 08/21/2020 Sample Type: Sample **Des Container Size** Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -2045005 Lab ID: 2045005-59 Report Matrix: Soil/Sediment Collected: 08/21/2020 Sample: MW-07D 6.1 7.1 1:50 96 hrs Sample Type: Sample Received: 08/21/2020 P-Lot **Des Container** Preservation Ship. Cont. Lot Ha Client-Provided Default Cooler -2045005 Lab ID: 2045005-60 Collected: 08/20/2020 Report Matrix: Soil/Sediment Sample: MW-04D 4.8 5.8 1:50 48hrs Sample Type: Sample Received: 08/21/2020 Des Container Size Lot **Preservation** P-Lot Ship. Cont. Client-Provided Default Cooler -

PM: Amy Goodall



BAL Report 2045005 Client PM: Randy Pratt Client Project: GSI-PR2001 (Everett As

Speciation)

# Sample Containers

Lot

**Lab ID**: 2045005-61

Sample: MW-04D\_4.8\_5.8\_1:50 96hrs

Des Container Size

A Client-Provided

Report Matrix: Soil/Sediment

Sample Type: Sample

Preservation

P-Lot

Collected: 08/20/2020 Received: 08/21/2020

pH Ship. Cont.

Default Cooler -2045005

# **Shipping Containers**

Default Cooler - 2045005

Received: August 21, 2020 16:49

Tracking No: via Coolant Type:

Temperature: Ambient

Description: Default Cooler Damaged in transit? No Returned to client? No Custody seals present? No Custody seals intact? No COC present? No

# **Sample Receipt Chain of Custody**

<u>Instructions</u>: Initial and date for each step performed. Write N/A if not applicable.

Workorder:	Project Manager: Amy
Labeled: SKS 8/19/20	
pH checked: N/A	
Preserved: N/A Time:	
Syringe filtered: N/A	
Poured off/split: N/A	
Stored: 5k5 8/19/20	
Other (specify:	): N/A
Non-conformance notes:	
MW-030_16-17 arrived w	ith a puncture on the bag; sks slinla
	J.
. 1	
Initial/date: 5KS 5/19/20	

Effective 4/3/20 Revision 005



# **Chain-of-Custody Form**

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

Received by:	only  Date:	BAL Report 2045005
Work Order ID:	Time:	1501
Project ID:	-	

Contact: Contact: Client Project ID: Samples Collected By:	o Eve GSI	ctt	PO Numb Phone: Email:	_				E	Mailing Email R BAL PM	eceipt	Confir	Poq1 matio	ad   n? ((	es)No	45t, Stc 200 9704
Requested TAT	Collect	ion	Clie	nt Sampl	e Info				ВА	L Anal	yses R	Require	ed		Comments
(business days)  20 (standard) 15* 10* 5* Other *Surcharges may apply to expedited TATs	Date	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCI/HNO <sub>3</sub> /Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) Inorg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)	
Sample ID  1 /ww - 04 D_12-7_13-7			Soil	1	L C	L T		2	2 0	4 £	ω ω	ш.	X	0 1	Specify Here
2 MW-040-18.6-19.6	4	1405	5011	i									X		
3															
4															
6															
7															
8															
9															
10															
Trip Blank															
Relinquished By:	✓ Date	8/20	70 Time:	1200	Re	elinquis	hed B	y:				Di	ate:		Time:
Received By:	_	:B/20			$\neg$	tal Nu	mber d	of Pac	kages:						•
Page 2 of 2 List H	azardous	Contar	ninants:		-1							samp	oles@bro	oksappli	ed.com   brooksapplied.com



# **Chain-of-Custody Form**

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

Received by:	še only Date:	BAL Report 2045005
Work Order ID:	Time:	1501
Project ID:		
Mailing Address: 55 SN V	anhill S	- Src 200

Client: CSI Contact: Randy Pro Client Project ID: Weyto Samples Collected By: C	EVER	+	Ph	Numb one: nail:	950	3.23 +0 gg	9.870 SINS:	ig wn	E	∕lailing Email R BAL PM	eceipt	Confir	mation	n? (	Yes/No	97005 97005
Requested TAT	Colle	ction		Clien	t Sampl	e Info				ВА	L Ana	lyses F	Require	ed		Comments
(business days)  20 (standard) 15* 10* 5* Other *Surcharges may apply to expedited TATs	Date	Time		Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) norg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)	
Sample ID					Ž	ای ک	<b>교</b> 된	유	M	<u>고</u> 왕	As	Se(	臣	하	ŏ	Specify Here
1 MW-06D-67-7.7	8/19/20	2 1140	S	lio	1									X		
2 MW-060_9.3-10		1530		\										X		
3 MW-06D-12-13		1315		1	1		-							\ \ \ \ \		
4 MW-065 18.1-19.1	Ola la a	1545												^	-	
5 MN-05D-4.2-5.2 6 MN-05D-1.5-7.5	812920				1									X		
(1)		930		1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \									X		
		940		1	1									7		
				1	1									X		
9 MW-04D-4.8-5.8 10 MW-04D-7.5-8.4		1240		-	1									X		
Trip Blank	W.	1520		~	1			×						02 B		
Relinquished By: Very Fix	lu Da	te: 6/10	10	Time:	1900	R	 elinquis	shed B	v.				D	ate:		Time:
Received By:		te: 8 20		Time:	•	-	otal Nu			kages:			15			1
Page 1 of 2 List Hazardous Contaminants: samples@brooksapplied.com   brooksapplied.com																

CLIENT DROP-OFF, NO WAYBILL

Sample Rece	ipt Checklist:
-------------	----------------

		*	
Cor	ntain	er Type:	
	X	Cooler	
		Cardboard box	
		Styrofoam coole	er
		Other (Specify):	
		Custody Seal Pro	esent?
		<b>Custody Seal Int</b>	act? Y/N
	X	Chain of Custod	y Present?
	`	Coolant and Ter	mperature
Coc	olant	Type IR#:	21
		None	٠,
		Blue Ice:	<u>`</u> °c
		Ice:	<u>°C</u>
	X.	Dry Ice:	-3 <u>0 °</u> c
		Temp Blank:	°C
*À	Cori	rected Temp:	°c
Coo	lant	Note: NA	
	tle T	•	
		Client Provided	SOIL
		Other:	COILES
	<b>₹</b>	Size / Type:	
		Lot:	
		Preservation:	
		Preservative Lot	
		Other:	
		Size / Type:	
• •		Lot:	
		Preservation:	-
		Preservative Lot	
		Other:	
		Size / Type: Lot:	
		Preservation:	
		Preservative Lot	:

All information accurate
Initial/date: 8/20/20

Coursier drop

off

8/19/20 9:08

# Sample Receipt Checklist: 2045005

-		
	er Type: Cooler Cardboard box Styrofoam cooler Other (Specify):	
	Custody Seal Present? Custody Seal Intact? Y Chain of Custody Presen	
	Coolant and Temperatu	re
Coolant	Type <u>IR#: 21</u>	
	None	
	Blue Ice:	<u>°C</u>
	lce:	°C
$\checkmark$	Dry Ice:	°C
<b>I</b>	Temp Blank:	°C
Cor	rected Temp:	°C
Coolant	Note:	
Bottle T	ype:	
· 🗹	Client Provided	
	Other:	
	Size / Type:	
	Lot:	
	Preservation:	
	Preservative Lot:	
	Other:	
	Size / Type:	
	Lot:	
	Preservation:	
*	Preservative Lot:	
	Other:	
	Size / Type:	
	Lot: Preservation:	
	Preservative Lot:	
	, . Coci vative Lot.	

#### All information accurate

Initial/date: 5ks 8/19/20



Client:

# **Chain -of-Custody Form**

Ship samples to: 18804 North Creek Parkway, Suite 100 Bothell, WA 98011

PO Number:

Received by: Spen	For BAL use only	BAL Report 2045005 8 21 20
Work Order ID:	Time:	
Project ID:		
Mailing Address:	55 SN Yambull:	St, Src 200

Contact: Randy Prot Client Project ID: Wey Samples Collected By:	to Eve Gisi	cett	Phone: Email:				m		Email R BAL PM					Yes(No)	
Requested TAT (business days)	Colle	ction	Clie	nt Sample	e Info			ij.	ВА	L Ana	lyses F	Requir	ed		Comments
□ 20 (standard) □ 15* □ 10* □ 5* □ Other *Surcharges may apply to expedited TATs	Date	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCI/HNO₃/Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) Inorg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify)	Other (specify)	
Sample ID				Z	ii C	₫ ឣ	ř	Σ	<u>S</u>	άš	യ് യ	证	0	0	Specify Here
1 MW-070_6.1-7.1	8/21/20		Soil	1									X		
2 MW-07D-11-12		825		1									X		
3 MN-07D-155-165		835											X		
4 MN-07D-21.5-22.5		840											X		
5 MW-100-6.5-7.5		1040											X		
6 MU-100_13.5-145		1112											X		
6 MU-10D-13.5-145 7 MW-10D-18.9-19.9		1120											X		
8 MW-10D_27.5-285	4	1140	1	1									X		
9													/		
10															
Trip Blank															
Relinquished By:	Da	te: 8/2	i/2o Time:	1310	Re	elinquis	hed B	y: 🎗	nenele	Stelle	yo-	D	ate:8/	21/20	Time: (31.10)
Received By: Rener &	nleya Da	te: 8/2	1/20 Time:	13:10	) To	tal Nu	mber o	of Pac	kages:						
Pageof List Hazardous Contaminants: samples@brooksapplied.com1 brooksapplied.com															

Sample Receipt	Checklist: 204500
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Con	taine	er Type:								
	V	Cooler								
		Cardboard box								
		Styrofoam cooler								
		Other (Specify):								
	_	_								
		Custody Seal Present?								
		Custody Seal Intact?								
	J	<b>Ghain of Custody Pres</b>	ent?							
		<b>Coolant and Tempera</b>	ture							
Coc	lant	Type IR#: 2(								
		None								
		Blue Ice:	<u>°C</u>							
		lce:	<u>°C</u>							
4		Dry Ice:	<u>°c</u>							
N s		Temp Blank:	<u>°C</u>							
	Cor	rected Temp:	<u>°C</u>							
Coc	olant	Note:								
Bot	tle T	ype:								
	` 🗹	Client Provided								
		Other:								
		Size / Type:								
		Lot:								
		Preservation:								
		Preservative Lot:								
		Other:								
		Size / Type:								
		Lot:								
		Preservation:								
		Preservative Lot:								
		Other:								
		Size / Type:	>							
		Lot:								
		Preservation: Preservative Lot:								
		FIESEIVALIVE LUL.								

### **All information accurate**

Initial/date: 5k5 8/21/20

Courier drop off.



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

**GSI Water Solutions, Inc.**Randy Pratt
1600 SW Western Blvd, Ste 240
Corvallis, OR 97333

**RE: Weyco Everett** 

Work Order Number: 2102074

February 10, 2021

#### **Attention Randy Pratt:**

Fremont Analytical, Inc. received 11 sample(s) on 2/3/2021 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Sulfide by SM4500-S2-F (MOD)
Total Organic Carbon by EPA 9060

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager CC:

Brad Bessinger

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 02/10/2021



CLIENT: GSI Water Solutions, Inc. Work Order Sample Summary

**Project:** Weyco Everett **Work Order:** 2102074

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2102074-001	MW-04D_12.7-13.7	08/20/2020 2:00 PM	02/03/2021 1:35 PM
2102074-002	MW-06D_6.7-7.7	08/19/2020 11:40 AM	02/03/2021 1:35 PM
2102074-003	MW-06D_9.3-10	08/19/2020 3:30 PM	02/03/2021 1:35 PM
2102074-004	MW-06D_12-13	08/19/2020 1:15 PM	02/03/2021 1:35 PM
2102074-005	MW-05D_4.2-5.2	08/20/2020 8:30 AM	02/03/2021 1:35 PM
2102074-006	MW-05D_6.5-7.5	08/20/2020 9:30 AM	02/03/2021 1:35 PM
2102074-007	MW-05D_11.8-12.8	08/20/2020 9:35 AM	02/03/2021 1:35 PM
2102074-008	MW-04D_4.8-5.8	08/20/2020 12:40 PM	02/03/2021 1:35 PM
2102074-009	MW-04D_7.5-8.4	08/20/2020 1:50 PM	02/03/2021 1:35 PM
2102074-010	MW-03D_21-22	08/18/2020 10:20 AM	02/03/2021 1:35 PM
2102074-011	MW-07D_6.1-7.1	08/21/2020 8:00 AM	02/03/2021 1:35 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



#### **Case Narrative**

WO#: **2102074**Date: **2/10/2021** 

**CLIENT:** GSI Water Solutions, Inc.

Project: Weyco Everett

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



### **Qualifiers & Acronyms**

WO#: **2102074** 

Date Reported: **2/10/2021** 

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

#### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-001 **Collection Date:** 8/20/2020 2:00:00 PM

Client Sample ID: MW-04D\_12.7-13.7 Matrix: Soil

**Analyses** Result **RL** Qual **Units** DF **Date Analyzed** Batch ID: R65159 Analyst: CJ Sample Moisture (Percent Moisture) Percent Moisture 14.5 0.500 2/8/2021 10:56:52 AM Batch ID: 31284 Analyst: SS **Total Organic Carbon by EPA 9060 Total Organic Carbon** ND 0.150 Н 2/8/2021 11:15:00 AM Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Analyst: SS Sulfide ND 5.84 mg/Kg-dry 2/5/2021 2:20:00 PM

**Lab ID:** 2102074-002 **Collection Date:** 8/19/2020 11:40:00 AM

Client Sample ID: MW-06D\_6.7-7.7 Matrix: Soil

Analyses	Result	RL Q	ual	Units	DF	Date	Analyzed
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	n ID: R6	5159	Analyst: CJ
Percent Moisture	16.7	0.500		wt%	1	2/8/2	021 10:56:52 AM
Total Organic Carbon by EPA 9060	!			Batch	n ID: 31	284	Analyst: SS
Total Organic Carbon	ND	0.150	Н	%-dry	1	2/8/2	2021 12:18:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	n ID: R6	5221	Analyst: SS
Sulfide	ND	6.00	Н	mg/Kg-dry	1	2/5/2	021 2:20:00 PM



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-003 **Collection Date:** 8/19/2020 3:30:00 PM

Client Sample ID: MW-06D\_9.3-10 Matrix: Soil

**Analyses** Result **RL** Qual **Units** DF **Date Analyzed** Batch ID: R65159 Analyst: CJ Sample Moisture (Percent Moisture) Percent Moisture 31.8 0.500 wt% 2/8/2021 10:56:52 AM Batch ID: 31284 **Total Organic Carbon by EPA 9060** Analyst: SS **Total Organic Carbon** 2/8/2021 1:41:00 PM 1.92 0.150 Η Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Analyst: SS Sulfide ND 7.34 mg/Kg-dry 2/5/2021 2:20:00 PM

**Lab ID:** 2102074-004 **Collection Date:** 8/19/2020 1:15:00 PM

Client Sample ID: MW-06D\_12-13 Matrix: Soil

Analyses	Result	RL Q	ual	Units	DF	Date	Analyzed
Sample Moisture (Percent Moistur	<u>e)</u>			Batch	ı ID: Re	65159	Analyst: CJ
Percent Moisture	11.0	0.500		wt%	1	2/8/20	021 10:56:52 AM
Total Organic Carbon by EPA 9060			Batch	n ID: 31	284	Analyst: SS	
Total Organic Carbon	ND	0.150	Н	%-dry	1	2/8/20	021 1:54:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	n ID: Re	35221	Analyst: SS
Sulfide	ND	5.61	Н	mg/Kg-dry	1	2/5/20	021 2:20:00 PM



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-005 **Collection Date:** 8/20/2020 8:30:00 AM

Client Sample ID: MW-05D\_4.2-5.2 Matrix: Soil

**RL Qual Units** DF **Date Analyzed Analyses** Result Batch ID: R65159 Analyst: CJ **Sample Moisture (Percent Moisture)** Percent Moisture 7.50 0.500 wt% 2/8/2021 10:56:52 AM Batch ID: 31284 **Total Organic Carbon by EPA 9060** Analyst: SS **Total Organic Carbon** 2/8/2021 2:09:00 PM ND 0.150 Н Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Analyst: SS Sulfide ND 5.41 mg/Kg-dry 2/5/2021 2:20:00 PM

**Lab ID:** 2102074-006 **Collection Date:** 8/20/2020 9:30:00 AM

Client Sample ID: MW-05D\_6.5-7.5 Matrix: Soil

**Analyses Units** DF **Date Analyzed** Result **RL Qual** Batch ID: R65183 Analyst: CJ Sample Moisture (Percent Moisture) Percent Moisture 36.5 0.500 wt% 2/9/2021 8:41:24 AM **Total Organic Carbon by EPA 9060** Batch ID: 31303 Analyst: SS **Total Organic Carbon** 2/9/2021 11:38:00 AM 1.69 0.150 Н Batch ID: R65221 Analyst: SS Sulfide by SM4500-S2-F (MOD) Sulfide 2/5/2021 2:20:00 PM ND 7.88 mg/Kg-dry



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-007 **Collection Date:** 8/20/2020 9:35:00 AM

Client Sample ID: MW-05D\_11.8-12.8 Matrix: Soil

**Analyses** Result **RL** Qual **Units** DF **Date Analyzed** Batch ID: R65183 Analyst: CJ Sample Moisture (Percent Moisture) Percent Moisture 13.8 0.500 2/9/2021 8:41:24 AM Batch ID: 31303 **Total Organic Carbon by EPA 9060** Analyst: SS **Total Organic Carbon** ND Н 2/9/2021 11:52:00 AM 0.150 Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Analyst: SS Sulfide ND 5.79 mg/Kg-dry 2/5/2021 2:20:00 PM

**Lab ID:** 2102074-008 **Collection Date:** 8/20/2020 12:40:00 PM

Client Sample ID: MW-04D\_4.8-5.8 Matrix: Soil

Analyses	Result	RL Q	ual	Units	DF	Date	e Analyzed
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	ı ID: R6	5183	Analyst: CJ
Percent Moisture	11.0	0.500		wt%	1	2/9/2	2021 8:41:24 AM
Total Organic Carbon by EPA 9060				Batch	n ID: 31	303	Analyst: SS
Total Organic Carbon	ND	0.150	н	%-dry	1	2/9/2	2021 12:51:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	ı ID: R6	55221	Analyst: SS
Sulfide	ND	5.62	Н	mg/Kg-dry	1	2/5/2	2021 2:20:00 PM



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-009 **Collection Date:** 8/20/2020 1:50:00 PM

Client Sample ID: MW-04D\_7.5-8.4 Matrix: Soil

**Analyses** Result **RL** Qual **Units** DF **Date Analyzed** Batch ID: R65183 Analyst: CJ Sample Moisture (Percent Moisture) Percent Moisture 23.2 0.500 2/9/2021 8:41:24 AM Batch ID: 31303 **Total Organic Carbon by EPA 9060** Analyst: SS **Total Organic Carbon** 0.342 Н 2/9/2021 1:07:00 PM 0.150 Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Analyst: SS Sulfide ND 6.51 mg/Kg-dry 2/5/2021 2:20:00 PM

**Lab ID:** 2102074-010 **Collection Date:** 8/18/2020 10:20:00 AM

Client Sample ID: MW-03D\_21-22 Matrix: Soil

Analyses	Result	RL Q	ual	Units	DF	Date	e Analyzed
Sample Moisture (Percent Moisture	<u>e)</u>			Batch	ı ID: Re	5183	Analyst: CJ
Percent Moisture	16.1	0.500		wt%	1	2/9/2	2021 8:41:24 AM
Total Organic Carbon by EPA 9060	1			Batch	n ID: 31	303	Analyst: SS
Total Organic Carbon	ND	0.150	Н	%-dry	1	2/9/2	2021 2:17:00 PM
Sulfide by SM4500-S2-F (MOD)				Batch	n ID: Re	55221	Analyst: SS
Sulfide	ND	5.97	Н	mg/Kg-dry	1	2/5/2	2021 2:20:00 PM



Work Order: **2102074**Date Reported: **2/10/2021** 

CLIENT: GSI Water Solutions, Inc.

Project: Weyco Everett

**Lab ID:** 2102074-011 **Collection Date:** 8/21/2020 8:00:00 AM

Client Sample ID: MW-07D\_6.1-7.1 Matrix: Soil

**Analyses** Result **RL** Qual **Units** DF **Date Analyzed** Batch ID: R65183 Analyst: CJ **Sample Moisture (Percent Moisture)** Percent Moisture 13.1 0.500 wt% 2/9/2021 8:41:24 AM Batch ID: 31326 Analyst: SS **Total Organic Carbon by EPA 9060 Total Organic Carbon** ND 0.150 Н 2/10/2021 11:34:00 AM Analyst: SS Sulfide by SM4500-S2-F (MOD) Batch ID: R65221 Sulfide ND 5.75 mg/Kg-dry 2/5/2021 2:20:00 PM

Date: 2/10/2021



Work Order: 2102074

**CLIENT:** 

GSI Water Solutions, Inc.

Project: Weyco Everett

**QC SUMMARY REPORT** 

Sulfide by SM4500-S2-F (MOD)

110ject. Weyeo L	voicti				
Sample ID: MB-R65221	SampType: MBLK		Units: mg/k	g Prep Date: 2/5/2021	RunNo: <b>65221</b>
Client ID: MBLKS	Batch ID: <b>R65221</b>			Analysis Date: 2/5/2021	SeqNo: <b>1311549</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	ND	0.500			
Sample ID: LCS-R65221	SampType: <b>LCS</b>		Units: mg/k	g Prep Date: 2/5/2021	RunNo: <b>65221</b>

Sample ID: LCS-R65221	SampType: LCS			Units: mg/Kg		Prep Dat	e: <b>2/5/202</b>	1	RunNo: <b>652</b>	21	
Client ID: LCSS	Batch ID: <b>R65221</b>					Analysis Dat	e: <b>2/5/202</b>	1	SeqNo: <b>131</b>	1550	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	1.90	0.500	2.000	0	95.0	65	135				

Sample ID: <b>2102074-001ADUP</b>	SampType: <b>DUP</b>			Units: mg/Kg-c	dry	Prep Da	te: <b>2/5/202</b>	1	RunNo: <b>652</b>	:21	
Client ID: MW-04D_12.7-13.7	Batch ID: <b>R65221</b>					Analysis Da	te: <b>2/5/202</b>	1	SeqNo: <b>131</b>	1552	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.84						0		30	Н

Sample ID: 2102074-001AMS	SampType: MS			Units: mg/K	g-dry	Prep Dat	te: <b>2/5/202</b>	1	RunNo: 652	21	
Client ID: MW-04D_12.7-13.7	Batch ID: <b>R65221</b>					Analysis Da	te: <b>2/5/202</b>	1	SeqNo: <b>13</b> 1	1553	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.84	2.338	0	0	65	135				SH

#### NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: 2102074-001AMSD	SampType: MSD			Units: mg/l	Kg-dry	Prep Da	te: <b>2/5/202</b>	1	RunNo: 652	221	
Client ID: MW-04D_12.7-13.7	Batch ID: R65221					Analysis Da	te: <b>2/5/202</b>	1	SeqNo: <b>13</b> 1	1554	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	5.85	2.338	0	0	65	135	0		30	SH

#### NOTES:

Original Page 11 of 18

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Date: 2/10/2021



Work Order: 2102074

**QC SUMMARY REPORT** 

**CLIENT:** GSI Water Solutions, Inc.

Weyco Everett

Sulfide by SM4500-S2-F (MOD)

Sample ID: 2102074-011ADUP	SampType: <b>DUP</b>	Units: mg/Kg-dry	Prep Date: 2/5/2021	RunNo: <b>65221</b>
Sample ID: <b>2102074-011ADUP</b>	SampType: <b>DUP</b>	Units: mg/Kg-dry	Prep Date: <b>2/5/2021</b>	RunNo: 65

Client ID: MW-07D\_6.1-7.1 Batch ID: R65221 Analysis Date: 2/5/2021 SeqNo: 1311565

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide ND 5.75 0 30 H

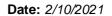
Sample ID: 2102074-011AMS	SampType: <b>MS</b>			Units: mg/K	g-dry	Prep Da	te: <b>2/5/2021</b>	RunNo: <b>65221</b>	
Client ID: MW-07D_6.1-7.1	Batch ID: <b>R65221</b>					Analysis Da	te: <b>2/5/2021</b>	SeqNo: <b>1311566</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Sulfide	ND	5 75	2 300	n	0	65	135		SH

#### NOTES:

Project:

Original Page 12 of 18

S - Spike recovery indicates a possible matrix effect. The method is in control as indicated by the Laboratory Control Sample (LCS).





Work Order: 2102074

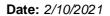
### **QC SUMMARY REPORT**

**CLIENT:** GSI Water Solutions, Inc.

**Total Organic Carbon by EPA 906** 

Project: Weyco Eve	erett				Total Organic Carbon by	EPA 9060
Sample ID: MB-31284	SampType: MBLK			Units: %-dry	Prep Date: <b>2/8/2021</b> RunNo: <b>65186</b>	
Client ID: MBLKS	Batch ID: 31284				Analysis Date: <b>2/8/2021</b> SeqNo: <b>1310799</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLi	mit Qual
Total Organic Carbon	ND	0.150				
Sample ID: LCS-31284	SampType: <b>LCS</b>			Units: %-dry	Prep Date: <b>2/8/2021</b> RunNo: <b>65186</b>	
Client ID: LCSS	Batch ID: 31284				Analysis Date: <b>2/8/2021</b> SeqNo: <b>1310800</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLi	mit Qual
Total Organic Carbon	1.05	0.150	1.000	0	105 80 120	
Sample ID: <b>2102074-001ADUP</b>	SampType: <b>DUP</b>			Units: %-dry	Prep Date: <b>2/8/2021</b> RunNo: <b>65186</b>	
Client ID: MW-04D_12.7-13.7	Batch ID: 31284				Analysis Date: <b>2/8/2021</b> SeqNo: <b>1310802</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLi	mit Qual
Total Organic Carbon	ND	0.150			0	20 H
Sample ID: <b>2102074-001AMS</b>	SampType: <b>MS</b>			Units: %-dry	Prep Date: <b>2/8/2021</b> RunNo: <b>65186</b>	
Client ID: MW-04D_12.7-13.7	Batch ID: 31284				Analysis Date: <b>2/8/2021</b> SeqNo: <b>1310803</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLi	mit Qual
Total Organic Carbon	1.05	0.150	1.000	0	105 75 125	Н
Sample ID: <b>2102074-001AMSD</b>	SampType: <b>MSD</b>			Units: %-dry	Prep Date: 2/8/2021 RunNo: 65186	
Client ID: MW-04D_12.7-13.7	Batch ID: 31284				Analysis Date: <b>2/8/2021</b> SeqNo: <b>1310804</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLi	mit Qual
Total Organic Carbon	1.16	0.150	1.000	0	116 75 125 1.048 10.1	20 H

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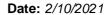
Work Order: 2102074

**QC SUMMARY REPORT** 

**CLIENT:** GSI Water Solutions, Inc.

Project: Weyco Eve	rett				Total Organic Carbon by EPA 9	060
Sample ID: MB-31303	SampType: <b>MBLK</b>			Units: %-dry	Prep Date: 2/9/2021 RunNo: 65208	
Client ID: MBLKS	Batch ID: 31303				Analysis Date: 2/9/2021 SeqNo: 1311338	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu	ual
Total Organic Carbon	ND	0.150				
Sample ID: LCS-31303	SampType: <b>LCS</b>			Units: %-dry	Prep Date: <b>2/9/2021</b> RunNo: <b>65208</b>	
Client ID: LCSS	Batch ID: 31303				Analysis Date: 2/9/2021 SeqNo: 1311339	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu	ual
Total Organic Carbon	0.996	0.150	1.000	0	99.6 80 120	
Sample ID: <b>2102074-007ADUP</b>	SampType: <b>DUP</b>			Units: %-dry	Prep Date: <b>2/9/2021</b> RunNo: <b>65208</b>	
Client ID: MW-05D_11.8-12.8	Batch ID: 31303				Analysis Date: 2/9/2021 SeqNo: 1311342	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu	ual
Total Organic Carbon	ND	0.150			0 20 H	Н
Sample ID: <b>2102074-007AMS</b>	SampType: <b>MS</b>			Units: %-dry	Prep Date: <b>2/9/2021</b> RunNo: <b>65208</b>	
Client ID: MW-05D_11.8-12.8	Batch ID: 31303				Analysis Date: 2/9/2021 SeqNo: 1311343	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu	ual
Total Organic Carbon	1.08	0.150	1.000	0	108 75 125 F	Н
Sample ID: <b>2102074-007AMSD</b>	SampType: <b>MSD</b>			Units: %-dry	Prep Date: 2/9/2021 RunNo: 65208	
Client ID: MW-05D_11.8-12.8	Batch ID: 31303				Analysis Date: 2/9/2021 SeqNo: 1311344	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qu	ual
Total Organic Carbon	1.10	0.150	1.000	0	110 75 125 1.076 2.02 20 H	Н

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Work Order: 2102074

### **QC SUMMARY REPORT**

**CLIENT:** GSI Water Solutions, Inc.

#### **Total Organic Carbon by EPA 9060**

Sample ID: MB-31326	SampType: MBLK										
	Jampiype. WIDLK			Units: %-dry		Prep Date	2/10/202	1	RunNo: 652	223	
Client ID: MBLKS	Batch ID: 31326					Analysis Date	2/10/202	:1	SeqNo: <b>13</b> 1	1591	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.150									
Sample ID: LCS-31326	SampType: <b>LCS</b>			Units: %-dry		Prep Date	2/10/202	1	RunNo: 652	223	
Client ID: LCSS	Batch ID: 31326					Analysis Date	2/10/202	:1	SeqNo: <b>13</b> 1	1592	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.00	0.150	1.000	0	100	80	120				
Sample ID: <b>2102074-011ADUP</b>	SampType: <b>DUP</b>			Units: %-dry		Prep Date	2/10/202	1	RunNo: 652	223	
Client ID: MW-07D_6.1-7.1	Batch ID: 31326					Analysis Date	2/10/202	1	SeqNo: <b>13</b> 1	1594	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.150						0		20	Н
Sample ID: <b>2102074-011AMS</b>	SampType: <b>MS</b>			Units: %-dry		Prep Date	2/10/202	1	RunNo: 652	223	
Client ID: MW-07D_6.1-7.1	Batch ID: 31326					Analysis Date	2/10/202	:1	SeqNo: <b>13</b> 1	1595	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.10	0.150	1.000	0	110	75	125				Н
Sample ID: <b>2102074-011AMSD</b>	SampType: <b>MSD</b>			Units: %-dry		Prep Date	2/10/202	1	RunNo: 652	223	
Client ID: MW-07D_6.1-7.1	Batch ID: 31326					Analysis Date	2/10/202	:1	SeqNo: <b>13</b> 1	1596	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	1.11	0.150	1.000	0	111	75	125	1.101	0.453	20	Н

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# Sample Log-In Check List

Clie	ent Name:	GSI		Work O	rder Num	ber: <b>2102074</b>		
Log	ged by:	Carissa Tı	ue	Date Re	ceived:	2/3/2021	1:35:00 PM	
Chair	n of Custo	ody						
	s Chain of C	_	olete?	Yes	<b>✓</b>	No 🗌	Not Present	
2. H	low was the	sample deli	vered?	<u>FedE</u>	<u>x</u>			
Log I	'n							
_	<del></del> Coolers are p	oresent?		Yes	<b>✓</b>	No 🗌	NA 🗆	
4. S	Shipping con	tainer/coole	in good condition?	Yes	✓	No 🗌		
			n shipping container/cooler? custody Seals not intact)	Yes	<b>✓</b>	No 🗌	Not Present	
6. V	Vas an atten	npt made to	cool the samples?	Yes	<b>✓</b>	No $\square$	NA 🗌	
7. V	Vere all item	is received a	at a temperature of >2°C to 6°C *	Yes	•	No 🗆	NA 🗆	
8. S	Sample(s) in	proper cont	ainer(s)?	Yes	<b>✓</b>	No 🗆		
9. S	Sufficient sar	mple volume	for indicated test(s)?	Yes	<b>✓</b>	No $\square$		
10. A	re samples	properly pre	served?	Yes	<b>✓</b>	No 🗌		
11. <sup>V</sup>	Vas preserva	ative added	to bottles?	Yes		No 🗸	NA 🗆	
12. ls	s there head	space in the	VOA vials?	Yes		No 🗌	NA 🗸	
13. D	oid all sample	es containe	rs arrive in good condition(unbroken)?	Yes	<b>✓</b>	No 🗌		
14. <sup>D</sup>	oes paperw	ork match b	ottle labels?	Yes	✓	No 🗌		
15. A	re matrices	correctly ide	entified on Chain of Custody?	Yes	<b>✓</b>	No 🗌		
_			were requested?	Yes	<b>✓</b>	No 🗌		
17. V	Vere all hold	ling times at	ele to be met?	Yes		No 🗸		
Spec	ial Handl	ing (if ap	olicable)					
_			discrepancies with this order?	Yes	<b>✓</b>	No $\square$	NA $\square$	
	Person	Notified:	Randy Pratt Date	:		2/5/2021		
	By Who	m:	Carissa True Via:	<b>✓</b> eMa	il 🗌 Ph	none  Fax	☐ In Person	
	Regardi	ng:	Out of hold					
	0.11	nstructions:						

Item #	Temp °C
Sample 1	1.9

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

<b>然</b> 及4号		3600 Fremont Ave N.	ž.	Chain of Custody Record & Labor	cord & Laboratory Services Agreement
		Seattle, WA 98103 Tel: 206-352-3790		Date: 1/25/21 Page: 1 of: 2	Laboratory Project No (internal): 2102074
Analytical		Fax: 206-352-7178		eyco Everett	Special Remarks: Analyze all samples for Sulfide and TOC
client: GSI Water Solutions,	Inc.		_	Project No:	Fremont PM: Brianna Barnes
Address: 1600 SW Western Boulevard, Ste 240	oulevar	d, Ste 2		Collected by:	
city, State, zip: Corvallis, OR				Location:	
Telephone:			_	REPORT TO [PM]: Randy Pratt & Brad Bessinger	Sample Disposal: Return to client Disposal by lab (after 30 days)
Fax:				PM Email: rpratt@gsiws.com and bbessinger@sspa.com	m
Sample Name	Sample	Sample (N	Sample Type (Matrix)*	# of CS CIDE COLLEGE C	Comments
12.7-13.7	0	0	soil		X 2034075-01
<sub>2</sub> MW-06D_6.7-7.7	8/19/20	11:40	soil	X	X 2034075-03
	8/19/20	15:30	soil	X	X 2034075-04
	8/19/20 13:15		soil	X	X 2034075-05
2	8/20/20 08:30		soil	X	X 2034075-07
	8/20/20 09:30	_	soil	×	X 2034075-08
2.8	8/20/20	09:35	soil	X	X 2034075-09
	8/20/20	12:40	soil	×	X 2034075-11
	8/20/20	13:50	soil	X	X 2034075-12
10 MW-03D_21-22	8/18/20	10:20	soil	X	X 2034075-16
*Matrix: A = Air, AQ = Aqueous, B = Bulk, O =	O = Other, P = Product, S = Soil, SD = Sediment,	duct, S = Soil,	, SD = Sec	SL = Solid, $W = Water$ , $DW = Drinking Water$ , $GW = Ground Water$ ,	SW = Storm Water, WW = Waste Water  Turn-around Time:
**Metals (Circle): MTCA-5 RCRA-8 Pri	Priority Pollutants	TAL	Individual:	Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb	Se Sr Sn Ti Tl V Zn Standard Next Day
***Anions (Circle): Nitrate Nitrite	Chloride	Sulfate	Bromide	O-Phosphate Fluoride Nitrate+Nitrite	

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Received (Signature)

**Print Name** 

Johnson

☐ 3 Day

Same Day

2 Day

(specify)

Date/Time

Relinquished (Signature)

Print Name

42/2 w: 30 Date/Time

Date/Time

Relinquished (Signature)

to each of the terms on the front and backside of this Agreement.

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement

	A										-	1.2		Ti-r				_		-	·-				
Relinquished (Signature)	MAN 12	Relinquished (Signature)	I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.	***Anions (Circle): N	**Metals (Circle): MTCA-5	*Matrix: A = Air, AQ = Aqueous, B = Bulk,	10	9	8	7	6	5	4	w	2	1 MW-07D_6.1-7.1	Sample Name	Fax:	Telephone:	chy, State, Zip: Corvallis, OR	Address: 1600 SW Western Boulevard, Ste 240	client: GSI Water Solutions, Inc			
	res		am authorized ns on the front	Nitrate Nitrite	CA-5 RCRA-8	Aqueous, B = Bulk,										7.1				allis, OR	N Westerr	er Solution	Analyt	LIGHTON	
Print Name (	Dulber Reprotels	Print Name	to enter into th	Chloride	Priority Pollutants	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water,										8/21/20	Sample Date				Boulevar	ıs, İnc.	Marcan Fa	-	36
0	Stange		is Agreem f this Agr	Sulfate	ts TAL	oduct, S=S										08:00	Sample				d, Ste		Fax: 206-352-7178	Tel: 206-352-3790	3600 Fremont Ave N.
	13	- 1	ent with I	Bromide	Individual:	oil, SD = Se										soil	Sample Type (Matrix)*					-			ve N.
Date/Time	7	Date/Time	Fremont Analy	O-Phosphate		diment, SL = Soli							+				# of LOCALITY CAROLITY CONT. LOCALITY CAROLITY C	PM Email: rpratt@gsiws.com and bbessinger	Report To [PM]: Randy Pratt & Brad Bessinger	Location:	Collected by:	Project No:	Project Name: Weyco Everett	Date: 1/25/21	Chai
	G(120)		ytical on beha	te Fluoride	Ag Al As B Ba Be Ca Cd Co	d, W=Water, D												tt@gsiws.	Randy Pr				Veyco Ενε	_	n of Cu
Received (Signature)	×	Received (Signature)	If of the Clien	Nitrate+Nitrite	o Cr Cu Fe Hg K	W = Drinking Wa												com and b	att & Bra					Page:	<b>Chain of Custody Record</b>
ure)	りり	ure)	t named abov	rite	K Mg Mn Mo	ter, GW = Ground Water,												bessinge	d Bessir					. 2 of:	
	1	+	e, that I h		Na Ni Pb												18 16 18 18 18 18 18 18 18 18 18 18 18 18 18	r@sspa.com	nger					<sub>f</sub> 2	& Lab
Print Name	Comto	Print Name	ive verified		Sb Se Sr	SW = Storm Water,										X X		.com	Sample I			Fremor	Special Remarks: Analyze all sa	Laborato	orato
Date	of Johnson	Date	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.		Sn Ti Tl V Zn	er, WW = Waste Water										2034075-21			Sample Disposal: Return to client			Fremont PM: Brianna Barnes	Special Remarks: Analyze all samples for Sulfide and TOC	Laboratory Project No (internal):	<b>Laboratory Services Agreement</b>
Date/Time	2/3/24	Date/Time		O 3 Day	Standard O	Turn-around Time:											Comments		nt Disposal by lab (after 30 days)			es	ide and TOC	2102074	Agreeme
	2101835		(specify)	Same Day	□ Next Day	id Time:													fter 30 days)					1	nt

Page 1 of 2



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: Weyer Mill E

Work Order Number: 2103065

April 13, 2021

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 15 sample(s) on 3/4/2021 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Dissolved Metals by EPA Method 200.8

Dissolved Organic Carbon by SM 5310C

Gasoline by NWTPH-Gx

Ion Chromatography by EPA Method 300.0

Pentachlorophenol by EPA Method 8270 (SIM)

Sulfide by SM 4500-S2-F

Total Metals by EPA Method 200.8

Total Alkalinity by SM 2320B

Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Revision v1



DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 04/13/2021



CLIENT: Floyd | Snider Work Order Sample Summary

**Project:** Weyer Mill E **Work Order:** 2103065

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2103065-001	MW-06D-030221	03/02/2021 2:35 PM	03/04/2021 11:00 AM
2103065-002	MW-02D-030221	03/02/2021 2:35 PM	03/04/2021 11:00 AM
2103065-003	MW-07S-030221	03/02/2021 3:40 PM	03/04/2021 11:00 AM
2103065-004	MW-04S-030221	03/02/2021 3:55 PM	03/04/2021 11:00 AM
2103065-005	MW-08S-030321	03/03/2021 9:42 AM	03/04/2021 11:00 AM
2103065-006	PZ-1A-030321	03/03/2021 9:50 AM	03/04/2021 11:00 AM
2103065-007	PZ-99-030321	03/03/2021 10:00 AM	03/04/2021 11:00 AM
2103065-008	PZ-2A-030321	03/03/2021 11:04 AM	03/04/2021 11:00 AM
2103065-009	LLMW-21S-030321	03/03/2021 12:40 PM	03/04/2021 11:00 AM
2103065-010	PZ-3A-030321	03/03/2021 12:38 PM	03/04/2021 11:00 AM
2103065-011	MW-01D-030321	03/03/2021 1:47 PM	03/04/2021 11:00 AM
2103065-012	LLMW-21D-030321	03/03/2021 2:00 PM	03/04/2021 11:00 AM
2103065-013	MW-08D-030321	03/03/2021 3:00 PM	03/04/2021 11:00 AM
2103065-014	MW-07D-030321	03/03/2021 3:25 PM	03/04/2021 11:00 AM
2103065-015	Trip Blank	02/23/2021 12:17 PM	03/04/2021 11:00 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



#### Case Narrative

WO#: **2103065**Date: **4/13/2021** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

4/13/21: Revision 1 includes additional analysis requested by client.



### **Qualifiers & Acronyms**

WO#: **2103065** 

Date Reported: **4/13/2021** 

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

#### Acronyms:

%Rec - Percent Recovery

CCB - Continued Calibration Blank

CCV - Continued Calibration Verification

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM** - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MCL - Maximum Contaminant Level

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 2:35:00 PM

Project: Weyer Mill E

Lab ID: 2103065-001 Matrix: Groundwater

	221					
nalyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA M	ethod 300.0			Bato	ch ID: 316	Analyst: SS
Fluoride	0.364	0.320	D	mg/L	4	3/15/2021 4:41:00 PM
Chloride	89.8	5.00	D	mg/L	50	3/5/2021 10:49:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	3/4/2021 1:07:00 PM
Bromide	ND	0.800	D	mg/L	2	3/4/2021 1:07:00 PM
Nitrate (as N)	ND	0.200	DQ	mg/L	2	3/4/2021 1:07:00 PM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/4/2021 1:07:00 PM
Sulfate	ND	1.20	D	mg/L	2	3/4/2021 1:07:00 PM
NOTES:				Ü		
Diluted due to high levels of non-target	t analytes.					
Q - Indicates an analyte with an initial on Nitrate.	calibration verification	that does no	t meet estat	olished acce	ptance crit	eria for Nitrogen,
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 31	593 Analyst: EH
Arsenic	1.21	1.00		μg/L	1	3/9/2021 7:16:12 PM
Iron	8,300	100		μg/L	1	3/9/2021 7:16:12 PM
Manganese	243	1.80		μg/L	1	3/9/2021 7:16:12 PM
Total Metals by EPA Method 2	00.8			Bato	ch ID: 31	562 Analyst: EH
Arsenic	1.65	1.00	В	μg/L	1	3/5/2021 10:31:04 PM
Calcium	13,300	200		μg/L	1	3/5/2021 10:31:04 PM
Magnesium	29,200	1,000	D	μg/L	10	3/10/2021 6:04:22 PM
Potassium	10,400	200		μg/L	1	3/5/2021 10:31:04 PM
Sodium	133,000	2,000	D	μg/L	10	3/10/2021 6:04:22 PM
NOTES:	,	,		1.5		
B - Indicates a detection in the ICB or	CCB.					
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	10.1	0.500		mg/L	1	3/10/2021 4:57:00 PM
Total Organic Carbon by SM 53	310C			Bato	ch ID: R6	5796 Analyst: SS
	10.2	0.500		mg/L	1	3/9/2021 3:24:00 PM
Total Organic Carbon	10.2			•		

2.50

mg/L

344

Alkalinity, Total (As CaCO3)

3/11/2021 10:41:17 AM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 2:35:00 PM

Project: Weyer Mill E

Lab ID: 2103065-001 Matrix: Groundwater

Client Sample ID: MW-06D-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 1.00
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: 2103065 Date Reported: 4/13/2021

Client: Floyd | Snider Collection Date: 3/2/2021 2:35:00 PM

Project: Weyer Mill E

**Lab ID:** 2103065-002 Matrix: Groundwater

Client Sample ID: MW-02D-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID: 315	559 Analyst: SS
Fluoride	ND	3.20	D	mg/L	40	3/4/2021 1:30:00 PM
Chloride	746	40.0	D	mg/L	400	3/5/2021 11:12:00 AM
Nitrite (as N)	ND	4.00	D	mg/L	40	3/4/2021 1:30:00 PM
Bromide	ND	16.0	D	mg/L	40	3/4/2021 1:30:00 PM
Nitrate (as N)	ND	4.00	DQ	mg/L	40	3/4/2021 1:30:00 PM
Ortho-Phosphate (as P)	ND	21.0	D	mg/L	40	3/4/2021 1:30:00 PM
Sulfate	76.2	24.0	D	mg/L	40	3/4/2021 1:30:00 PM
NOTES:						
Diluted due to high levels of non-ta	rget analytes.					
Q - Indicates an analyte with an ini	tial calibration verification t	that does not	meet estab	lished acce	ptance crit	eria for Nitrogen,

Nitrate.

Dissolved Metals by EPA Metho	Dissolved Metals by EPA Method 200.8					593	Analyst: EH
Arsenic	3.04	1.00		μg/L	1	3/9/2	021 7:21:46 PM
Iron	19,600	100		μg/L	1	3/9/2	021 7:21:46 PM
Manganese	981	1.80		μg/L	1	3/9/2	021 7:21:46 PM
Total Metals by EPA Method 20	00.8			Bato	h ID: 31	562	Analyst: EH
Arsenic	3.12	1.00	В	μg/L	1	3/5/2	021 10:47:47 PM
Calcium	35,500	2,000	D	μg/L	10	3/10/	2021 6:08:56 PM
Magnesium	82,400	1,000	D	μg/L	10	3/10/	2021 6:08:56 PM
Potassium	22,300	200		μg/L	1	3/5/2	021 10:47:47 PM
Sodium	533,000	2,000	D	μg/L	10	3/10/	2021 6:08:56 PM
NOTES: B - Indicates a detection in the ICB or 0	CCB.						
Dissolved Organic Carbon by S	M 5310C			Bato	h ID: R6	5795	Analyst: SS
Organic Carbon, Dissolved	15.0	0.500		mg/L	1	3/10/	2021 5:30:00 PM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	h ID: R6	5796	Analyst: SS
Total Organic Carbon	14.8	0.500		mg/L	1	3/9/2	021 3:57:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5811	Analyst: WF
Alkalinity, Total (As CaCO3)	372	2.50		mg/L	1	3/11/	2021 10:41:17 AM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 2:35:00 PM

Project: Weyer Mill E

Lab ID: 2103065-002 Matrix: Groundwater

Client Sample ID: MW-02D-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 1.20
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 3:40:00 PM

Project: Weyer Mill E

Lab ID: 2103065-003 Matrix: Groundwater

Client Sample ID: MW-07S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 31	559 Analyst: SS
Fluoride	0.644	0.160	D	mg/L	2	3/5/2021 11:35:00 AM
Chloride	5.52	0.200	D	mg/L	2	3/5/2021 11:35:00 AM
Nitrite (as N)	ND	0.100		mg/L	1	3/4/2021 1:53:00 PM
Bromide	ND	0.400		mg/L	1	3/4/2021 1:53:00 PM
Nitrate (as N)	ND	0.100	Q	mg/L	1	3/4/2021 1:53:00 PM
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/4/2021 1:53:00 PM
Sulfate	14.5	1.20	D	mg/L	2	3/5/2021 11:35:00 AM
NOTES:						

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen,

Dissolved Metals by EPA Method 200.8					Batch ID: 31593 Analyst: EH			
Arsenic	252	1.00		μg/L	1	3/9/2021 7:27:20 PM		
Iron	27,500	100		μg/L	1	3/9/2021 7:27:20 PM		
Manganese	2,020	1.80		μg/L	1	3/9/2021 7:27:20 PM		
Total Metals by EPA Method 200	<u>).8</u>			Bato	h ID: 31	Analyst: EH		
Arsenic	242	1.00		μg/L	1	3/8/2021 9:17:24 PM		
Calcium	96,200	4,000	D	μg/L	20	3/11/2021 2:01:55 PM		
Magnesium	26,900	100		μg/L	1	3/8/2021 9:17:24 PM		
Potassium	9,860	200		μg/L	1	3/8/2021 9:17:24 PM		
Sodium	73,900	4,000	D	μg/L	20	3/11/2021 2:01:55 PM		
Dissolved Organic Carbon by SM	<u> 1 5310C</u>			Bato	h ID: R6	5795 Analyst: SS		
Organic Carbon, Dissolved	17.1	0.500		mg/L	1	3/10/2021 5:50:00 PM		
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	5796 Analyst: SS		
Total Organic Carbon	17.3	0.500		mg/L	1	3/9/2021 4:16:00 PM		
Total Alkalinity by SM 2320B				Bato	h ID: R6	5811 Analyst: WF		
Alkalinity, Total (As CaCO3)	506	2.50		mg/L	1	3/11/2021 10:41:17 AN	1	



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 3:40:00 PM

Project: Weyer Mill E

Lab ID: 2103065-003 Matrix: Groundwater

Client Sample ID: MW-07S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 1.40
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 3:55:00 PM

Project: Weyer Mill E

Lab ID: 2103065-004 Matrix: Groundwater

Client Sample ID: MW-04S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	ethod 300.0			Bato	ch ID: 315	559 Analyst: SS
Fluoride	ND	0.160	D	mg/L	2	3/5/2021 11:58:00 AM
Chloride	78.2	10.0	D	mg/L	100	3/4/2021 2:16:00 PM
Nitrite (as N)	ND	10.0	D	mg/L	100	3/4/2021 2:16:00 PM
Nitrite (as N)	ND	0.200	DHQ	mg/L	2	3/5/2021 11:58:00 AM
Bromide	ND	0.800	D	mg/L	2	3/5/2021 11:58:00 AM
Nitrate (as N)	ND	10.0	DQ	mg/L	100	3/4/2021 2:16:00 PM
Nitrate (as N)	ND	0.200	DHQ	mg/L	2	3/5/2021 11:58:00 AM
Ortho-Phosphate (as P)	ND	1.05	DH	mg/L	2	3/5/2021 11:58:00 AM
Ortho-Phosphate (as P)	ND	52.5	D	mg/L	100	3/4/2021 2:16:00 PM
Sulfate	6.85	1.20	D	mg/L	2	3/5/2021 11:58:00 AM

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Dissolved Metals by EPA Method 2	issolved Metals by EPA Method 200.8					1593	Analyst: EH
Arsenic	3.60	1.00		μg/L	1	3/9/2	2021 7:32:54 PM
Iron	113	100		μg/L	1	3/9/2	2021 7:32:54 PM
Manganese	9.78	1.80		μg/L	1	3/9/2	2021 7:32:54 PM
Total Metals by EPA Method 200.8	<u>3</u>			Batc	h ID: 3°	1583	Analyst: EH
Arsenic	5.46	1.00		μg/L	1	3/8/2	2021 9:22:57 PM
Calcium	2,550	200		μg/L	1	3/8/2	2021 9:22:57 PM
Magnesium	1,270	100		μg/L	1	3/8/2	2021 9:22:57 PM
Potassium	751	200		μg/L	1	3/8/2	2021 9:22:57 PM
Sodium	63,100	4,000	D	μg/L	20	3/11	/2021 2:30:00 PM
Dissolved Organic Carbon by SM	<u>5310C</u>			Batc	h ID: R	65795	Analyst: SS
Organic Carbon, Dissolved	5.73	0.500		mg/L	1	3/10	/2021 6:21:00 PM
Total Organic Carbon by SM 5310	<u>C</u>			Batc	h ID: R	65796	Analyst: SS
Total Organic Carbon	4.42	0.500		mg/L	1	3/9/2	2021 4:38:00 PM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria, for Nitrogen, Nitrite Diluted due to high levels of non-target analytes.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 3:55:00 PM

Project: Weyer Mill E

Lab ID: 2103065-004 Matrix: Groundwater

Client Sample ID: MW-04S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batc	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	9.07	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	5738 Analyst: SS
Sulfide	0.600	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 9:42:00 AM

Project: Weyer Mill E

Lab ID: 2103065-005 Matrix: Groundwater

Client Sample ID: MW-08S-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 31	559 Analyst: SS
Fluoride	0.905	0.400	D	mg/L	5	3/5/2021 12:21:00 PM
Chloride	8.23	0.500	D	mg/L	5	3/5/2021 12:21:00 PM
Nitrite (as N)	ND	0.100		mg/L	1	3/4/2021 2:39:00 PM
Bromide	ND	0.400		mg/L	1	3/4/2021 2:39:00 PM
Nitrate (as N)	ND	0.100	Q	mg/L	1	3/4/2021 2:39:00 PM
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/4/2021 2:39:00 PM
Sulfate	10.4	0.600		mg/L	1	3/4/2021 2:39:00 PM
NOTES:				Ü		
Q - Indicates an analyte with an initi Nitrate.	al calibration verification	that does not	meet estab	olished acce	ptance crit	teria for Nitrogen,
Dissolved Metals by EPA Met	thod 200.8			Bato	h ID: 31	593 Analyst: EH
Arsenic	543	1.00		μg/L	1	3/9/2021 7:38:28 PM
Iron	38,800	100		μg/L	1	3/9/2021 7:38:28 PM
Manganese	1,260	18.0	D	μg/L	10	3/11/2021 6:08:14 PM
Total Metals by EPA Method	200.8			Bato	h ID: 31	583 Analyst: EH
Arsenic	523	1.00		μg/L	1	3/8/2021 9:28:31 PM
Calcium	109,000	4,000	D	μg/L	20	3/11/2021 2:35:34 PM
Magnesium	20,400	100		μg/L	1	3/8/2021 9:28:31 PM
Potassium	5,660	200		μg/L	1	3/8/2021 9:28:31 PM
Sodium	21,600	200		μg/L	1	3/8/2021 9:28:31 PM
Dissolved Organic Carbon by	/ SM 5310C			Bato	h ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	14.0	0.500		mg/L	1	3/10/2021 6:41:00 PM
Total Organic Carbon by SM	<u>5310C</u>			Bato	h ID: R6	5796 Analyst: SS
Total Organic Carbon	13.8	0.500		mg/L	1	3/9/2021 5:45:00 PM

382

2.50

**Total Alkalinity by SM 2320B** 

Alkalinity, Total (As CaCO3)

Analyst: WF

3/11/2021 10:41:17 AM

Batch ID: R65811

1

mg/L



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 9:42:00 AM

Project: Weyer Mill E

Lab ID: 2103065-005 Matrix: Groundwater

Client Sample ID: MW-08S-030321

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 1.20
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 9:50:00 AM

Project: Weyer Mill E

Lab ID: 2103065-006 Matrix: Groundwater

Client Sample ID: PZ-1A-030321

Analyses	Result	RL	Qual	Units	DF	Da	ate Analyzed
Diesel and Heavy Oil by NWTPI	I-Dx/Dx Ext.			Bato	h ID:	31899	Analyst: MM
Discret (Free LOTI)	070	00.5		/1	4	4/0/	2004 2 00 05 514
Diesel (Fuel Oil)	673	99.5	Н	μg/L	1		2021 6:08:25 PM
Heavy Oil	487	99.5	Н	μg/L	1		2021 6:08:25 PM
Total Petroleum Hydrocarbons	1,160	99.5	BH	μg/L	1		2021 6:08:25 PM
Surr: 2-Fluorobiphenyl	82.0	50 - 150	H	%Rec	1		2021 6:08:25 PM
Surr: o-Terphenyl	90.7	50 - 150	Н	%Rec	1	4/8/	2021 6:08:25 PM
NOTES:							
Quanted to avoid Gx							
Pentachlorophenol by EPA Met	hod 8270 (SIM	D)		Bato	h ID:	31898	Analyst: IH
Pentachlorophenol	ND	0.499	Н	μg/L	1	4/8/	2021 4:43:33 PM
Surr: 2,4,6-Tribromophenol	98.7	58.4 - 160	Н	%Rec	1	4/8/	2021 4:43:33 PM
Gasoline by NWTPH-Gx				Bato	h ID:	31895	Analyst: CR
Gasoline	4,320	500	DH	μg/L	10	4/7/	2021 9:50:48 PM
Surr: Toluene-d8	100	65 - 135	DH	%Rec	10	4/7/	2021 9:50:48 PM
Surr: 4-Bromofluorobenzene	97.6	65 - 135	DH	%Rec	10	4/7/	2021 9:50:48 PM
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID:	31650	Analyst: SS
Fluoride	1.22	0.320	D	mg/L	4	3/15	5/2021 5:04:00 PM
Chloride	76.8	5.00	D	mg/L	50	3/5/	2021 12:45:00 PM
Nitrite (as N)	ND	0.500	D	mg/L	5	3/4/	2021 3:02:00 PM
Bromide	2.36	2.00	D	mg/L	5	3/4/	2021 3:02:00 PM
Nitrate (as N)	ND	0.500	DQ	mg/L	5	3/4/	2021 3:02:00 PM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/4/	2021 3:02:00 PM
Sulfate	ND	3.00	D	mg/L	5	3/4/	2021 3:02:00 PM
NOTES:				•			
Diluted due to high levels of non-target	analytes.						
Q - Indicates an analyte with an initial c	alibration verificati	on that does no	meet estab	olished acce	ptance	criteria for	Nitrogen,

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

<b>Dissolved</b>	<u>Metals</u>	<u>by</u>	<u>EPA</u>	<u>Method</u>	<u> 200.8</u>

Arsenic	1,420	1.00	μg/L	1	3/9/2021 7:44:02 PM
Iron	37,700	100	μg/L	1	3/9/2021 7:44:02 PM
Manganese	2,260	1.80	μg/L	1	3/9/2021 7:44:02 PM

Analyst: EH

Batch ID: 31593



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 9:50:00 AM

Project: Weyer Mill E

Lab ID: 2103065-006 Matrix: Groundwater

Client Sample ID: PZ-1A-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 20	0.8			Batc	h ID: 31	583 Analyst: EH
Arsenic	1,270	1.00		μg/L	1	3/8/2021 9:45:14 PM
Calcium	79,800	4,000	D	μg/L	20	3/11/2021 2:41:09 PM
Magnesium	33,400	100		μg/L	1	3/8/2021 9:45:14 PM
Potassium	15,800	200		μg/L	1	3/8/2021 9:45:14 PM
Sodium	156,000	4,000	D	μg/L	20	3/11/2021 2:41:09 PM
Dissolved Organic Carbon by SM 5310C				Batc	h ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	26.1	0.500		mg/L	1	3/10/2021 7:04:00 PM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R6	5796 Analyst: SS
Total Organic Carbon	26.5	0.500		mg/L	1	3/9/2021 6:08:00 PM
Total Alkalinity by SM 2320B				Batc	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	602	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	5738 Analyst: SS
Sulfide	2.60	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 10:00:00 AM

Project: Weyer Mill E

Lab ID: 2103065-007 Matrix: Groundwater

Client Sample ID: PZ-99-030321

Client Sample ID: PZ-99-030321 Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH	I-Dx/Dx Ext.			Bato	ch ID: 31	587 Analyst: MM
Diesel (Fuel Oil)	ND	99.8		μg/L	1	3/10/2021 7:01:04 AM
Diesel Range Organics (C12-C24)	433	99.8		μg/L	1	3/10/2021 7:01:04 AM
Heavy Oil	1,860	99.8		μg/L	1	3/10/2021 7:01:04 AM
Surr: 2-Fluorobiphenyl	83.3	50 - 150		%Rec	1	3/10/2021 7:01:04 AM
Surr: o-Terphenyl	81.8	50 - 150		%Rec	1	3/10/2021 7:01:04 AM
NOTES:						
Diesel Range Organics - Indicates unre	solved compounds	s in the Diesel ra	ange incons	sistent with a	known pe	etroleum standard.
Pentachlorophenol by EPA Met	hod 8270 (SIM	)		Bato	ch ID: 31	600 Analyst: SB
Pentachlorophenol	ND	0.500		μg/L	1	3/10/2021 3:54:55 PM
Surr: 2,4,6-Tribromophenol	100	58.4 - 160		%Rec	1	3/10/2021 3:54:55 PM
Gasoline by NWTPH-Gx				Bato	h ID: 31	564 Analyst: KT
Gasoline	10,600	500	D	μg/L	10	3/8/2021 12:48:00 PM
Surr: Toluene-d8	100	65 - 135	D	%Rec	10	3/8/2021 12:48:00 PM
Surr: 4-Bromofluorobenzene	97.3	65 - 135	D	%Rec	10	3/8/2021 12:48:00 PM
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID: 31	559 Analyst: SS
Fluoride	1.38	0.320	D	mg/L	4	3/5/2021 1:08:00 PM
Chloride	79.1	4.00	D	mg/L	40	3/5/2021 1:31:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	3/4/2021 3:25:00 PM
Nitrite (as N)	ND	0.400	DHQ	mg/L	4	3/5/2021 1:08:00 PM
Bromide	2.16	1.60	D	mg/L	4	3/5/2021 1:08:00 PM
Nitrate (as N)	ND	0.400	DHQ	mg/L	4	3/5/2021 1:08:00 PM
Nitrate (as N)	ND	1.00	DQ	mg/L	10	3/4/2021 3:25:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/4/2021 3:25:00 PM
Ortho-Phosphate (as P)	ND	2.10	DH	mg/L	4	3/5/2021 1:08:00 PM
Sulfate	ND	2.40	D	mg/L	4	3/5/2021 1:08:00 PM

#### NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria for Nitrogen, Nitrite. Diluted due to high levels of non-target analytes.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 10:00:00 AM

Project: Weyer Mill E

Lab ID: 2103065-007 Matrix: Groundwater

Client Sample ID: PZ-99-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method	1 200.8			Bato	h ID: 31	593 Analyst: EH
Arsenic	1,370	1.00		μg/L	1	3/9/2021 7:49:36 PM
Iron	37,100	100		μg/L	1	3/9/2021 7:49:36 PM
Manganese	2,230	1.80		μg/L	1	3/9/2021 7:49:36 PM
Total Metals by EPA Method 200	tal Metals by EPA Method 200.8		Bato	h ID: 31	583 Analyst: EH	
Arsenic	1,350	1.00		μg/L	1	3/8/2021 9:50:48 PM
Calcium	73,200	4,000	D	μg/L	20	3/11/2021 2:46:43 PM
Magnesium	33,200	100		μg/L	1	3/8/2021 9:50:48 PM
Potassium	16,200	200		μg/L	1	3/8/2021 9:50:48 PM
Sodium	146,000	4,000	D	μg/L	20	3/11/2021 2:46:43 PM
Dissolved Organic Carbon by SM 5310C				Bato	h ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	25.9	0.500		mg/L	1	3/10/2021 7:37:00 PM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	5796 Analyst: SS
Total Organic Carbon	25.8	0.500		mg/L	1	3/9/2021 6:41:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	587	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	5738 Analyst: SS
Sulfide	2.00	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 11:04:00 AM

Project: Weyer Mill E

Lab ID: 2103065-008 Matrix: Groundwater

Client Sample ID: PZ-2A-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPI	H-Dx/Dx Ext.			Bato	ch ID: 31	587 Analyst: MM
Diesel (Fuel Oil)	ND	99.1		μg/L	1	3/10/2021 7:30:49 AM
Heavy Oil	135	99.1		μg/L	1	3/10/2021 7:30:49 AM
Surr: 2-Fluorobiphenyl	75.4	50 - 150		%Rec	1	3/10/2021 7:30:49 AM
Surr: o-Terphenyl	87.6	50 - 150		%Rec	1	3/10/2021 7:30:49 AM
Pentachlorophenol by EPA Met	:hod 8270 (SIM	)		Bato	ch ID: 31	600 Analyst: SB
Pentachlorophenol	ND	0.493		μg/L	1	3/10/2021 3:12:09 PM
Surr: 2,4,6-Tribromophenol	105	58.4 - 160		%Rec	1	3/10/2021 3:12:09 PM
Gasoline by NWTPH-Gx				Bato	h ID: 31	564 Analyst: KT
Gasoline	ND	50.0		μg/L	1	3/8/2021 9:55:25 AM
Surr: Toluene-d8	101	65 - 135		%Rec	1	3/8/2021 9:55:25 AM
Surr: 4-Bromofluorobenzene	95.4	65 - 135		%Rec	1	3/8/2021 9:55:25 AM
Ion Chromatography by EPA M	ethod 300.0			Bato	ch ID: 31	559 Analyst: SS
Fluoride	ND	0.400	D	mg/L	5	3/5/2021 1:54:00 PM
Chloride	133	5.00	D	mg/L	50	3/5/2021 2:17:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	3/4/2021 3:49:00 PM
Nitrite (as N)	ND	0.500	DHQ	mg/L	5	3/5/2021 1:54:00 PM
Bromide	ND	2.00	D	mg/L	5	3/5/2021 1:54:00 PM
Nitrate (as N)	ND	0.500	DHQ	mg/L	5	3/5/2021 1:54:00 PM
Nitrate (as N)	ND	1.00	DQ	mg/L	10	3/4/2021 3:49:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/4/2021 3:49:00 PM
Ortho-Phosphate (as P)	ND	2.62	DH	mg/L	5	3/5/2021 1:54:00 PM
Sulfate	ND	3.00	D	mg/L	5	3/5/2021 1:54:00 PM
NOTEC.						

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Dissolved Metals by EP	A Method 200.8	Batcl	h ID: 31	593 Analyst: EH	
Arsenic	142	1.00	μg/L	1	3/9/2021 7:55:10 PM
Iron	34,700	100	μg/L	1	3/9/2021 7:55:10 PM
Manganese	1,280	1.80	μg/L	1	3/9/2021 7:55:10 PM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria for Nitrogen, Nitrite.

Diluted due to high levels of non-target analytes.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 11:04:00 AM

Project: Weyer Mill E

Lab ID: 2103065-008 Matrix: Groundwater

Client Sample ID: PZ-2A-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 20	00.8			Batc	h ID: 31	583 Analyst: EH
Arsenic	130	1.00		μg/L	1	3/8/2021 9:56:21 PM
Calcium	54,200	4,000	D	μg/L	20	3/11/2021 2:52:18 PM
Magnesium	12,000	100		μg/L	1	3/8/2021 9:56:21 PM
Potassium	7,300	200		μg/L	1	3/8/2021 9:56:21 PM
Sodium	35,300	4,000	D	μg/L	20	3/11/2021 2:52:18 PM
Dissolved Organic Carbon by SM 5310C  Batch ID: R65						5795 Analyst: SS
Organic Carbon, Dissolved	6.50	0.500		mg/L	1	3/10/2021 8:49:00 PM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R6	5796 Analyst: SS
Total Organic Carbon	6.70	0.500		mg/L	1	3/9/2021 7:00:00 PM
Total Alkalinity by SM 2320B				Batc	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	100	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	5738 Analyst: SS
Sulfide	0.800	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 12:40:00 PM

Project: Weyer Mill E

Lab ID: 2103065-009 Matrix: Groundwater

Client Sample ID: LLMW-21S-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 31	559 Analyst: SS
Fluoride	ND	0.160	D	mg/L	2	3/5/2021 3:26:00 PM
Chloride	0.346	0.200	D	mg/L	2	3/5/2021 3:26:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	3/4/2021 6:07:00 PM
Nitrite (as N)	ND	0.200	DHQ	mg/L	2	3/5/2021 3:26:00 PM
Bromide	ND	0.800	D	mg/L	2	3/5/2021 3:26:00 PM
Nitrate (as N)	ND	1.00	DQ	mg/L	10	3/4/2021 6:07:00 PM
Nitrate (as N)	ND	0.200	DHQ	mg/L	2	3/5/2021 3:26:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/4/2021 6:07:00 PM
Ortho-Phosphate (as P)	ND	1.05	DHQ	mg/L	2	3/5/2021 3:26:00 PM
Sulfate	7.19	1.20	D	mg/L	2	3/5/2021 3:26:00 PM

NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Dissolved Metals by EPA Method 200.8					ch ID: 31	593	Analyst: EH
Arsenic	2.92	1.00		μg/L	1	3/9/2	021 8:11:54 PM
Iron	606	100		μg/L	1	3/9/2	021 8:11:54 PM
Manganese	58.5	1.80		μg/L	1	3/9/2	021 8:11:54 PM
Total Metals by EPA Method 20	0.8			Bato	ch ID: 31	583	Analyst: EH
Arsenic	4.64	1.00		μg/L	1	3/8/2	021 10:01:55 PM
Calcium	57,400	4,000	D	μg/L	20	3/11/	2021 2:57:52 PM
Magnesium	10,900	100		μg/L	1	3/8/2	021 10:01:55 PM
Potassium	4,110	200		μg/L	1	3/8/2	021 10:01:55 PM
Sodium	17,100	4,000	D	μg/L	20	3/11/	2021 2:57:52 PM
Dissolved Organic Carbon by Si	M 5310C			Bato	h ID: R6	5795	Analyst: SS
Organic Carbon, Dissolved	2.05	0.500		mg/L	1	3/10/	2021 10:16:00 PM
Total Organic Carbon by SM 5310C				Bato	h ID: R6	5796	Analyst: SS
Total Organic Carbon	1.97	0.500		mg/L	1	3/9/2	021 8:39:00 PM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria for Nitrogen, Nitrite. Diluted due to high levels of non-target analytes.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 12:40:00 PM

Project: Weyer Mill E

Lab ID: 2103065-009 Matrix: Groundwater

Client Sample ID: LLMW-21S-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batcl	n ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	153	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batcl	n ID: R6	5738 Analyst: SS
Sulfide	0.800	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 12:38:00 PM

Project: Weyer Mill E

Lab ID: 2103065-010 Matrix: Groundwater

Client Sample ID: PZ-3A-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Diesel and Heavy Oil by NWTPI	H-Dx/Dx Ext.			Bato	h ID:	31587 Analyst: N	ИM
Diesel (Fuel Oil)	ND	98.6		μg/L	1	3/9/2021 8:13:36 Pf	М
Heavy Oil	ND	98.6		μg/L	1	3/9/2021 8:13:36 PI	М
Surr: 2-Fluorobiphenyl	83.9	50 - 150		%Rec	1	3/9/2021 8:13:36 PI	М
Surr: o-Terphenyl	90.5	50 - 150		%Rec	1	3/9/2021 8:13:36 Pf	М
Pentachlorophenol by EPA Met	:hod 8270 (SIM	)		Bato	h ID:	31600 Analyst: S	В
Pentachlorophenol	ND	0.494		μg/L	1	3/10/2021 4:16:14 F	PM
Surr: 2,4,6-Tribromophenol	110	58.4 - 160		%Rec	1	3/10/2021 4:16:14 F	<sup>2</sup> M
Gasoline by NWTPH-Gx				Bato	h ID:	31564 Analyst: K	T
Gasoline	ND	50.0		μg/L	1	3/5/2021 11:54:50 F	PM
Surr: Toluene-d8	102	65 - 135		%Rec	1	3/5/2021 11:54:50 F	PМ
Surr: 4-Bromofluorobenzene	94.3	65 - 135		%Rec	1	3/5/2021 11:54:50 F	PM
lon Chromatography by EPA M	ethod 300.0			Bato	h ID:	31559 Analyst: S	S
Fluoride	2.01	0.160	D	mg/L	2	3/4/2021 6:30:00 Pf	М
Chloride	129	10.0	D	mg/L	10	0 3/5/2021 3:49:00 PI	М
Nitrite (as N)	ND	0.200	D	mg/L	2	3/4/2021 6:30:00 PI	М
Bromide	ND	0.800	D	mg/L	2	3/4/2021 6:30:00 PI	М
Nitrate (as N)	0.348	0.200	DQ	mg/L	2	3/4/2021 6:30:00 PI	М
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/4/2021 6:30:00 PI	М
Sulfate	46.6	3.00	D	mg/L	5	3/5/2021 4:12:00 PI	М
NOTES:							
Diluted due to high levels of non-target	analytes.						

Diluted due to high levels of non-target analytes.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen,

Dissolved Metals by EPA Method 2	200.8		Batch ID	31593	Analyst: EH
Arsenic	176	1.00	μg/L	1 3/9/2	021 8:17:29 PM
Iron	5,390	100	μg/L	1 3/9/2	021 8:17:29 PM
Manganese	51.7	1.80	μg/L	1 3/9/2	021 8:17:29 PM
Total Metals by EPA Method 200.8	<u>3</u>		Batch ID	): 31583	Analyst: EH
Arsenic	157	1.00	μg/L	1 3/8/2	021 10:07:28 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 12:38:00 PM

Project: Weyer Mill E

Lab ID: 2103065-010 Matrix: Groundwater

Client Sample ID: PZ-3A-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 200.8					h ID: 31	583 Analyst: EH
Calcium	26,800	4,000	D	μg/L	20	3/11/2021 3:03:27 PM
Magnesium	6,810	100		μg/L	1	3/8/2021 10:07:28 PM
Potassium	5,020	200		μg/L	1	3/8/2021 10:07:28 PM
Sodium	149,000	4,000	D	μg/L	20	3/11/2021 3:03:27 PM
Dissolved Organic Carbon by SI	<u>M 5310C</u>			Bato	h ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	5.36	0.500		mg/L	1	3/10/2021 10:38:00 PM
Total Organic Carbon by SM 531	0C			Bato	h ID: R6	5796 Analyst: SS
Total Organic Carbon	5.38	0.500		mg/L	1	3/9/2021 8:58:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	124	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	5738 Analyst: SS
Sulfide	ND	0.500		mg/L	1	3/9/2021 2:18:52 PM

Revision v1



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 1:47:00 PM

Project: Weyer Mill E

Lab ID: 2103065-011 Matrix: Groundwater

Client Sample ID: MW-01D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 315	559 Analyst: SS
Fluoride	ND	3.20	D	mg/L	40	3/4/2021 6:53:00 PM
Chloride	1,090	50.0	D	mg/L	500	3/5/2021 4:35:00 PM
Nitrite (as N)	ND	4.00	D	mg/L	40	3/4/2021 6:53:00 PM
Bromide	ND	16.0	D	mg/L	40	3/4/2021 6:53:00 PM
Nitrate (as N)	ND	4.00	DQ	mg/L	40	3/4/2021 6:53:00 PM
Ortho-Phosphate (as P)	ND	21.0	D	mg/L	40	3/4/2021 6:53:00 PM
Sulfate	159	24.0	D	mg/L	40	3/4/2021 6:53:00 PM
NOTES:						

#### NOTES:

Diluted due to high levels of non-target analytes.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen,

Dissolved Metals by EPA Metho	d 200.8			Bato	ch ID: 31	593 Analyst: EH
Arsenic	9.36	1.00		μg/L	1	3/9/2021 8:23:03 PM
Iron	2,170	100		μg/L	1	3/9/2021 8:23:03 PM
Manganese	72.1	1.80		μg/L	1	3/9/2021 8:23:03 PM
Total Metals by EPA Method 20	0.8			Bato	ch ID: 31	583 Analyst: EH
Arsenic	9.68	1.00		μg/L	1	3/8/2021 10:13:02 PM
Calcium	36,800	10,000	D	μg/L	50	3/11/2021 3:09:01 PM
Magnesium	60,800	5,000	D	μg/L	50	3/11/2021 3:09:01 PM
Potassium	28,500	10,000	D	μg/L	50	3/11/2021 3:09:01 PM
Sodium	667,000	10,000	D	μg/L	50	3/11/2021 3:09:01 PM
Dissolved Organic Carbon by S	M 5310C			Bato	ch ID: R6	5795 Analyst: SS
Organic Carbon, Dissolved	5.83	0.500		mg/L	1	3/10/2021 11:01:00 PM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	ch ID: R6	5796 Analyst: SS
Total Organic Carbon	5.84	0.500		mg/L	1	3/9/2021 10:07:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	153	2.50		mg/L	1	3/11/2021 10:41:17 AM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 1:47:00 PM

Project: Weyer Mill E

Lab ID: 2103065-011 Matrix: Groundwater

Client Sample ID: MW-01D-030321

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide
 Batch ID: R65738
 Analyst: SS

 Sulfide
 0.600
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 2:00:00 PM

Project: Weyer Mill E

Lab ID: 2103065-012 Matrix: Groundwater

Client Sample ID: LLMW-21D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	ch ID: 31	559 Analyst: SS
Fluoride	0.146	0.0800		mg/L	1	3/5/2021 4:59:00 PM
Chloride	23.5	2.00	D	mg/L	20	3/5/2021 5:22:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	3/4/2021 7:16:00 PM
Nitrite (as N)	ND	0.100	HQ	mg/L	1	3/5/2021 4:59:00 PM
Bromide	ND	0.400		mg/L	1	3/5/2021 4:59:00 PM
Nitrate (as N)	ND	0.200	DQ	mg/L	2	3/4/2021 7:16:00 PM
Nitrate (as N)	ND	0.100	HQ	mg/L	1	3/5/2021 4:59:00 PM
Ortho-Phosphate (as P)	ND	0.525	Н	mg/L	1	3/5/2021 4:59:00 PM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/4/2021 7:16:00 PM
Sulfate	7.93	0.600		mg/L	1	3/5/2021 4:59:00 PM

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Dissolved Metals by EPA Method	1 200.8			Bato	ch ID: 31	593 A	nalyst: EH
Arsenic	ND	1.00		μg/L	1	3/9/2021	8:28:37 PM
Iron	ND	100		μg/L	1	3/9/2021	8:28:37 PM
Manganese	33.0	1.80		μg/L	1	3/9/2021	8:28:37 PM
Total Metals by EPA Method 200	0.8			Bato	ch ID: 31	583 A	nalyst: EH
Arsenic	ND	1.00		μg/L	1	3/8/2021	10:18:35 PM
Calcium	34,400	4,000	D	μg/L	20	3/11/2021	3:14:36 PM
Magnesium	26,100	100		μg/L	1	3/8/2021	10:18:35 PM
Potassium	11,000	200		μg/L	1	3/8/2021	10:18:35 PM
Sodium	71,200	4,000	D	μg/L	20	3/11/2021	3:14:36 PM
Dissolved Organic Carbon by SM	<u> 1 5310C</u>			Bato	h ID: R6	5795 A	nalyst: SS
Organic Carbon, Dissolved	6.60	0.500		mg/L	1	3/10/2021	11:23:00 PM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	5796 A	nalyst: SS
Total Organic Carbon	6.47	0.500		mg/L	1	3/9/2021	10:28:00 PM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria for Nitrogen, Nitrite. Diluted due to high levels of non-target analytes.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 2:00:00 PM

Project: Weyer Mill E

Lab ID: 2103065-012 Matrix: Groundwater

Client Sample ID: LLMW-21D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batcl	n ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	291	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batcl	n ID: R6	5738 Analyst: SS
Sulfide	8.20	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 3:00:00 PM

Project: Weyer Mill E

Lab ID: 2103065-013 Matrix: Groundwater

Client Sample ID: MW-08D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID: 31	559 Analyst: SS
Fluoride	0.460	0.400	D	mg/L	5	3/5/2021 5:45:00 PM
Chloride	74.4	4.00	D	mg/L	40	3/5/2021 6:08:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	3/4/2021 7:40:00 PM
Nitrite (as N)	ND	0.500	DHQ	mg/L	5	3/5/2021 5:45:00 PM
Bromide	ND	2.00	D	mg/L	5	3/5/2021 5:45:00 PM
Nitrate (as N)	ND	1.00	DQ	mg/L	10	3/4/2021 7:40:00 PM
Nitrate (as N)	ND	0.500	DHQ	mg/L	5	3/5/2021 5:45:00 PM
Ortho-Phosphate (as P)	ND	2.62	DH	mg/L	5	3/5/2021 5:45:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/4/2021 7:40:00 PM
Sulfate	ND	3.00	D	mg/L	5	3/5/2021 5:45:00 PM

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Dissolved Metals by EPA Meth	od 200.8			Bato	ch ID: 31	593	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/9/2	021 8:34:11 PM
Iron	719	100		μg/L	1	3/9/2	021 8:34:11 PM
Manganese	51.4	1.80		μg/L	1	3/9/2	021 8:34:11 PM
Total Metals by EPA Method 2	00.8			Bato	ch ID: 31	583	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/8/2	021 10:24:09 PM
Calcium	13,800	200		μg/L	1	3/8/2	021 10:24:09 PM
Magnesium	33,300	100		μg/L	1	3/8/2	021 10:24:09 PM
Potassium	10,400	200		μg/L	1	3/8/2	021 10:24:09 PM
Sodium	134,000	4,000	D	μg/L	20	3/11/	2021 3:20:10 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID: R6	5795	Analyst: SS
Organic Carbon, Dissolved	10.7	0.500		mg/L	1	3/11/	2021 12:41:00 AM
Total Organic Carbon by SM 5	310C			Bato	h ID: R6	5796	Analyst: SS
Total Organic Carbon	10.9	0.500		mg/L	1	3/9/2	021 10:51:00 PM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria for Nitrogen, Nitrite. Diluted due to high levels of non-target analytes.



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 3:00:00 PM

Project: Weyer Mill E

Lab ID: 2103065-013 Matrix: Groundwater

Client Sample ID: MW-08D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batcl	n ID: R6	5811 Analyst: WF
Alkalinity, Total (As CaCO3)	387	2.50		mg/L	1	3/11/2021 10:41:17 AM
Sulfide by SM 4500-S2-F				Batcl	n ID: R6	5738 Analyst: SS
Sulfide	0.600	0.500		mg/L	1	3/9/2021 2:18:52 PM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 3:25:00 PM

Project: Weyer Mill E

Lab ID: 2103065-014 Matrix: Groundwater

Client Sample ID: MW-07D-030321

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	ch ID: 31	559 Analyst: SS
Fluoride	0.540	0.400	D	mg/L	5	3/4/2021 8:49:00 PM
Chloride	80.2	5.00	D	mg/L	50	3/5/2021 6:31:00 PM
Nitrite (as N)	ND	0.500	D	mg/L	5	3/4/2021 8:49:00 PM
Bromide	ND	2.00	D	mg/L	5	3/4/2021 8:49:00 PM
Nitrate (as N)	ND	0.500	DQ	mg/L	5	3/4/2021 8:49:00 PM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/4/2021 8:49:00 PM
Sulfate	ND	3.00	D	mg/L	5	3/4/2021 8:49:00 PM
NOTES:						
Diluted due to high levels of non-tar	get analytes.					
Q - Indicates an analyte with an init Nitrate.	ial calibration verification	that does not	meet estab	olished acce	ptance cri	teria for Nitrogen,

Dissolved Metals by EPA Metho	<u>d 200.8</u>			Batc	h ID: 31	1593	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/9/2	2021 8:39:45 PM
Iron	6,220	100		μg/L	1	3/9/2	2021 8:39:45 PM
Manganese	200	1.80		μg/L	1	3/9/2	2021 8:39:45 PM
Total Metals by EPA Method 20	0.8			Batc	h ID: 31	1583	Analyst: EH
Arsenic	2.05	1.00		μg/L	1	3/8/2	2021 10:29:42 PM
Calcium	17,300	200		μg/L	1	3/8/2	2021 10:29:42 PM
Magnesium	33,500	100		μg/L	1	3/8/2	2021 10:29:42 PM
Potassium	14,300	200		μg/L	1	3/8/2	2021 10:29:42 PM
Sodium	194,000	4,000	D	μg/L	20	3/11/	/2021 4:02:45 PM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R	65795	Analyst: SS
Organic Carbon, Dissolved	14.7	0.500		mg/L	1	3/11/	/2021 1:02:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R	65796	Analyst: SS
Total Organic Carbon	14.0	0.500		mg/L	1	3/9/2	2021 11:24:00 PM
Total Alkalinity by SM 2320B				Batc	h ID: R	65811	Analyst: WF
Alkalinity, Total (As CaCO3)	449	2.50		mg/L	1	3/11/	/2021 10:41:17 AM



Work Order: **2103065**Date Reported: **4/13/2021** 

Client: Floyd | Snider Collection Date: 3/3/2021 3:25:00 PM

Project: Weyer Mill E

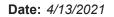
Lab ID: 2103065-014 Matrix: Groundwater

Client Sample ID: MW-07D-030321

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide
 Batch ID: R65738
 Analyst: SS

 Sulfide
 0.800
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



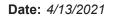


#### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F Total Alkalinity by SM 2320B

Project: Weyer Mill	E				Total Alkalinity by SM 2320
Sample ID: MB-R65811	SampType: MBLK			Units: mg/L	Prep Date: 3/11/2021 RunNo: 65811
Client ID: MBLKW	Batch ID: <b>R65811</b>				Analysis Date: 3/11/2021 SeqNo: 1323982
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Alkalinity, Total (As CaCO3)	ND	2.50			
Sample ID: LCS-R65811	SampType: LCS			Units: mg/L	Prep Date: 3/11/2021 RunNo: 65811
Client ID: LCSW	Batch ID: <b>R65811</b>				Analysis Date: 3/11/2021 SeqNo: 1323983
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Alkalinity, Total (As CaCO3)	100	2.50	100.0	0	100 99.1 105
Sample ID: <b>2103065-001DDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/11/2021 RunNo: 65811
Client ID: MW-06D-030221	Batch ID: <b>R65811</b>				Analysis Date: 3/11/2021 SeqNo: 1323985
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Alkalinity, Total (As CaCO3)	353	2.50			343.8 2.74 20
Sample ID: <b>2103065-012DDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/11/2021 RunNo: 65811
Client ID: LLMW-21D-030321	Batch ID: <b>R65811</b>				Analysis Date: 3/11/2021 SeqNo: 1323997
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Alkalinity, Total (As CaCO3)	286	2.50			291.3 1.65 20

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill E

#### **Dissolved Organic Carbon by SM 5310C**

Project: vveyer Mill I	E				
Sample ID: MB-R65795	SampType: MBLK			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: MBLKW	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323806
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	ND	0.500			
Sample ID: LCS-R65795	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: LCSW	Batch ID: R65795				Analysis Date: 3/10/2021 SeqNo: 1323807
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	5.07	0.500	5.000	0	101 94.4 109
Sample ID: <b>2103065-008EDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: <b>PZ-2A-030321</b>	Batch ID: R65795				Analysis Date: 3/10/2021 SeqNo: 1323818
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	6.50	0.500			6.503 0 20
Sample ID: <b>2103065-008EMS</b>	SampType: <b>MS</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: PZ-2A-030321	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323819
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	11.3	0.500	5.000	6.503	96.4 80.9 124
Sample ID: <b>2103065-008EMSD</b>	SampType: <b>MSD</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: <b>PZ-2A-030321</b>	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323820
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	11.1	0.500	5.000	6.503	92.2 80.9 124 11.32 1.87 30

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Date: 4/13/2021



Work Order: 2103065

#### **QC SUMMARY REPORT**

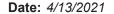
CLIENT: Floyd | Snider
Project: Weyer Mill E

#### **Dissolved Organic Carbon by SM 5310C**

Sample ID: 2103081-002EDUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date:	3/11/2021	RunNo: 657	95
Client ID: BATCH	Batch ID: R65795			Analysis Date:	3/11/2021	SeqNo: <b>132</b>	3831
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit H	lighLimit RPD Ref Val	%RPD	RPDLimit Qual
Organic Carbon, Dissolved	8.37	0.500			8.393	0.298	20

Sample ID: 2103081-002EMS	SampType: MS			Units: mg/L		Prep Da	te: <b>3/11/20</b>	21	RunNo: 657	795	
Client ID: BATCH	Batch ID: R65795					Analysis Da	te: 3/11/20	21	SeqNo: 132	23832	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	13.3	0.500	5.000	8.393	97.3	80.9	124				

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#### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

#### Ion Chromatography by EPA Method 300.0

Sample ID: ICV-31539	SampType: ICV			Units: mg/L		Prep Da	te: 3/2/202	21	RunNo: <b>657</b>	<b>'</b> 55	
Client ID: ICV	Batch ID: 31559				Analysis Date: 3/2/2021				SeqNo: <b>132</b>	22831	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.455	0.0800	0.5000	0	91.0	90	110				
Chloride	0.681	0.100	0.7500	0	90.8	90	110				
Nitrite (as N)	0.677	0.100	0.7500	0	90.3	90	110				
Bromide	2.26	0.400	2.500	0	90.5	90	110				
Nitrate (as N)	0.665	0.100	0.7500	0	88.7	90	110				S
Ortho-Phosphate (as P)	1.29	0.525	1.250	0	103	90	110				
Sulfate	3.40	0.600	3.750	0	90.6	90	110				
NOTES.											

#### NOTES:

S - Outlying spike recovery observed (low bias). Samples will be qualified with a Q.

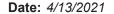
Sample ID: <b>MB-31559</b>	SampType: MBLK		Units: mg/L	Prep Date: 3/4/2021	RunNo: <b>65823</b>
Client ID: MBLKW	Batch ID: 31559			Analysis Date: 3/4/2021	SeqNo: <b>1324309</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Fluoride	ND	0.0800			
Chloride	ND	0.100			
Nitrite (as N)	ND	0.100			
Bromide	ND	0.400			
Nitrate (as N)	ND	0.100			Q
Ortho-Phosphate (as P)	ND	0.525			
Sulfate	ND	0.600			

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Sample ID: LCS-31559	SampType: <b>LCS</b>	Units: mg/L				Prep Da	te: <b>3/4/202</b>	21	RunNo: <b>65823</b>		
Client ID: LCSW	Batch ID: 31559					Analysis Da	te: <b>3/4/202</b>	21	SeqNo: 132	4310	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.497	0.0800	0.5000	0	99.4	90	110				
Chloride	0.731	0.100	0.7500	0	97.5	90	110				
Nitrite (as N)	0.676	0.100	0.7500	0	90.1	90	110				

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#### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Weyer Mill E

#### Ion Chromatography by EPA Method 300.0

Sample ID: LCS-31559	SampType: <b>LCS</b>	Units: mg/L				Prep Da	te: <b>3/4/202</b>	21	RunNo: 658		
Client ID: LCSW	Batch ID: 31559					Analysis Da	te: <b>3/4/202</b>	SeqNo: <b>132</b>	4310		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.40	0.400	2.500	0	96.2	90	110				
Nitrate (as N)	0.715	0.100	0.7500	0	95.3	90	110				
Ortho-Phosphate (as P)	1.39	0.525	1.250	0	111	90	110				S
Sulfate	3.57	0.600	3.750	0	95.1	90	110				
NOTES											

#### NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID: 2103065-008CDUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date: 3/4/2021	RunNo: <b>65823</b>
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31559			Analysis Date: 3/4/2021	SeqNo: 1324321
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Fluoride	ND	0.800		0	20 D
Chloride	155	1.00		141.6	9.13 20 ED
Nitrite (as N)	ND	1.00		0	20 D
Bromide	ND	4.00		0	20 D
Nitrate (as N)	ND	1.00		0	20 DQ
Ortho-Phosphate (as P)	ND	5.25		0	20 D
Sulfate	ND	6.00		0	20 D

#### NOTES:

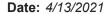
E - Estimated value. The amount exceeds the linear working range of the instrument.

Diluted due to high levels of non-target analytes.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Sample ID: 2103065-008CMS	SampType: MS			Units: mg/L		Prep Da	te: <b>3/4/202</b>	21	RunNo: 658	323	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31559					Analysis Da	te: <b>3/4/202</b>	:1	SeqNo: 132	24322	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.39	0.800	5.000	0.5300	97.2	80	120				D
Chloride	159	1.00	7.500	141.6	238	80	120				ESD
Nitrite (as N)	6.86	1.00	7.500	0	91.5	80	120				D
Bromide	23.8	4.00	25.00	0	95.2	80	120				D

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#### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

#### Ion Chromatography by EPA Method 300.0

Sample ID: 2103065-008CMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/4/202</b>	:1	RunNo: 658	323	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31559					Analysis Da	te: <b>3/4/202</b>	21	SeqNo: 132	24322	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	7.07	1.00	7.500	0	94.3	80	120				D
Ortho-Phosphate (as P)	11.7	5.25	12.50	0	93.5	80	120				D
Sulfate	38.1	6.00	37.50	1.550	97.5	80	120				D

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2103065-008CMSD	SampType: MSD			Units: mg/L		Prep Dat	te: <b>3/4/202</b>	<u>!</u> 1	RunNo: 658		
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31559					Analysis Da	te: <b>3/4/202</b>	:1	SeqNo: 132	24323	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.25	0.800	5.000	0.5300	94.4	80	120	5.390	2.63	20	D
Chloride	159	1.00	7.500	141.6	232	80	120	159.4	0.283	20	ESD
Nitrite (as N)	6.81	1.00	7.500	0	90.8	80	120	6.860	0.732	20	D
Bromide	24.0	4.00	25.00	0	95.8	80	120	23.79	0.670	20	D
Nitrate (as N)	7.09	1.00	7.500	0	94.5	80	120	7.070	0.282	20	D
Ortho-Phosphate (as P)	16.2	5.25	12.50	0	130	80	120	11.69	32.5	20	SD
Sulfate	39.4	6.00	37.50	1.550	101	80	120	38.11	3.40	20	D

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

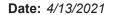
Sample ID: 2103061-001EDUP	SampType: <b>DUP</b>	Units: mg/L				Prep Da	te: <b>3/4/202</b>	21	RunNo: 658		
Client ID: BATCH	Batch ID: 31559					Analysis Da	ite: 3/4/202	21	SeqNo: 132	24333	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.400						0		20	D
Chloride	85.0	0.500						86.14	1.31	20	DE
Nitrite (as N)	ND	0.500						0		20	D
Bromide	ND	2.00						0		20	D

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S - Analyte concentration was too high for accurate spike recovery of Chloride.

S - Analyte concentration was too high for accurate spike recovery of Chloride.

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range for Phosphorus, Total Orthophosphate (As PO4)





#### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Weyer Mill E

#### Ion Chromatography by EPA Method 300.0

Sample ID: 2103061-001EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>3/4/202</b>	21	RunNo: 658	23	
Client ID: BATCH	Batch ID: <b>31559</b>					Analysis Da	te: <b>3/4/202</b>	:1	SeqNo: 132	4333	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.00	0.500						1.025	2.47	20	DQ
Ortho-Phosphate (as P)	ND	2.62						0		20	D
Sulfate	6.80	3.00						6.910	1.68	20	D

#### NOTES:

Diluted due to high levels of non-target analytes.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria for Nitrogen, Nitrate.

Sample ID: CCV-31559F	SampType: <b>CCV</b>			Units: mg/L Prep Date: 3/5/2021			1	RunNo: <b>65823</b>			
Client ID: CCV	Batch ID: 31559					Analysis Da	te: <b>3/5/202</b>	1	SeqNo: 132	24352	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.489	0.0800	0.5000	0	97.8	90	110				
Chloride	0.724	0.100	0.7500	0	96.5	90	110				
Nitrite (as N)	0.661	0.100	0.7500	0	88.1	90	110				S
Bromide	2.37	0.400	2.500	0	94.7	90	110				
Nitrate (as N)	0.600	0.100	0.6250	0	96.0	90	110				
Ortho-Phosphate (as P)	1.49	0.525	1.250	0	119	90	110				S
Sulfate	3.86	0.600	3.750	0	103	90	110				

#### NOTES:

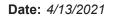
S - Outlying spike recovery observed for Nitrogen, Nitrite (low bias). Samples will be qualified with a Q.

Sample ID: <b>MB-31650</b>	SampType: MBLK	Units: mg/L			Prep Date: 3/15/2021			RunNo: <b>65898</b>			
Client ID: MBLKW	Batch ID: 31650				Analysis Date: 3/15/2021			SeqNo: <b>1326046</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride ND 0.0800

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E - Estimated value. The amount exceeds the linear working range of the instrument.



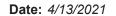


### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: Weyer M	/lill E		Ion Chromatography by EPA Meth								od 300.0	
Sample ID: LCS-31650	Units: mg/L				Prep Date: 3/15/2021			RunNo: <b>65898</b>				
Client ID: LCSW	Batch ID: 31650					Analysis Date	3/15/202	1	SeqNo: 132	26047		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	0.484	0.0800	0.5000	0	96.8	90	110					
Sample ID: <b>2103207-001ADUF</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/15/2021			RunNo: <b>65898</b>				
Client ID: BATCH	Batch ID: 31650				Analysis Date: 3/15/2021			SeqNo: <b>1326049</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride  NOTES:  Diluted due to matrix.	ND	8.00						0		20	D	
Sample ID: <b>2103207-001AMS</b>	SampType: <b>MS</b>			Units: mg/L	Prep Date: <b>3/15/2021</b>			RunNo: <b>65898</b>				
Client ID: BATCH	Batch ID: 31650				Analysis Date: 3/15/2021			SeqNo: <b>1326050</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	49.0	8.00	50.00	0	98.0	80	120				D	
Sample ID: <b>2103207-001AMSI</b>	D SampType: MSD			Units: mg/L	Prep Date: 3/15/2021			RunNo: <b>65898</b>				
Client ID: BATCH	Batch ID: 31650				Analysis Date: 3/15/2021			SeqNo: <b>1326051</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	48.6	8.00	50.00	0	97.2	80	120	49.00	0.820	20	D	

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide         ND         0.500           Sample ID: LCS-R65738         SampType: LCS         Units: mg/L         Prep Date: 3/9/2021         RunNo: 65738           Client ID: LCSW         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD F           Sulfide         1.80         0.500         2.000         0         90.0         74.9         118           Sample ID: 2103065-008GDUP         SampType: DUP         Units: mg/L         Prep Date: 3/9/2021         RunNo: 65738           Client ID: PZ-2A-030321         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224			
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F Sulfide ND 0.500  Sample ID: LCS-R65738 SampType: LCS Units: mg/L Prep Date: 3/9/2021 RunNo: 65738 Client ID: LCSW Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 13224 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F Sulfide 1.80 0.500 2.000 0 90.0 74.9 118  Sample ID: 2103065-008GDUP SampType: DUP Units: mg/L Prep Date: 3/9/2021 RunNo: 65738 Client ID: PZ-2A-030321 Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 13224 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F	165		
Sulfide         ND         0.500           Sample ID: LCS-R65738         SampType: LCS         Units: mg/L         Prep Date: 3/9/2021         RunNo: 65738           Client ID: LCSW         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD Ref Val         RPD Ref Val         %RPD Ref Val         FR           Sulfide         1.80         0.500         2.000         0         90.0         74.9         118         TR         TR         SPK ref Val         Prep Date: 3/9/2021         RunNo: 65738         RunNo: 65738         Analysis Date: 3/9/2021         SeqNo: 13224         SeqNo: 13224         SeqNo: 13224         Analysis Date: 3/9/2021         SeqNo: 13224         Se			
Sample ID: LCS-R65738         SampType: LCS         Units: mg/L         Prep Date: 3/9/2021         RunNo: 65738           Client ID: LCSW         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD Ref Val         RPD Ref Val         %RPD Ref Val<	RPDLimit Qual		
Client ID:         LCSW         Batch ID:         R65738         Analysis Date:         3/9/2021         SeqNo:         13224           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPD         Result           Sulfide         1.80         0.500         2.000         0         90.0         74.9         118         Text         Text         New Instance         New Instance         RunNo:         65738         Text         Analysis Date:         3/9/2021         RunNo:         65738         SeqNo:         13224         Analysis Date:         3/9/2021         SeqNo:         13224         Analysis Date:         3/9/2021         SeqNo:         13224         RunNo:         65738         SeqNo:         13224         Analysis Date:         3/9/2021			
Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         F           Sulfide         1.80         0.500         2.000         0         90.0         74.9         118         T         T         S         T <td< td=""><td colspan="3">RunNo: <b>65738</b></td></td<>	RunNo: <b>65738</b>		
Sulfide         1.80         0.500         2.000         0         90.0         74.9         118           Sample ID: 2103065-008GDUP         SampType: DUP         Units: mg/L         Prep Date: 3/9/2021         3/9/2021         RunNo: 65738           Client ID: PZ-2A-030321         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD Ref Val	SeqNo: <b>1322466</b>		
Sample ID: 2103065-008GDUP         SampType: DUP         Units: mg/L         Prep Date: 3/9/2021         RunNo: 65738           Client ID: PZ-2A-030321         Batch ID: R65738         Analysis Date: 3/9/2021         SeqNo: 13224           Analyte         Result         RL SPK value SPK Ref Val         %REC LowLimit HighLimit RPD Ref Val         %RPD Ref Val	RPDLimit Qual		
Client ID: PZ-2A-030321 Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 13224  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F			
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F	RunNo: <b>65738</b>		
,	175		
Sulfide         1.00         0.500         0.8000         22.2	RPDLimit Qual		
	30		
Sample ID: 2103065-008GMS	RunNo: <b>65738</b>		
Client ID: <b>PZ-2A-030321</b> Batch ID: <b>R65738</b> Analysis Date: <b>3/9/2021</b> SeqNo: <b>13224</b>	<del>1</del> 76		
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F	RPDLimit Qual		
Sulfide 3.00 0.500 2.000 0.8000 110 74.9 118			
Sample ID: <b>2103065-008GMSD</b> SampType: <b>MSD</b> Units: <b>mg/L</b> Prep Date: <b>3/9/2021</b> RunNo: <b>65738</b>	3		
Client ID: <b>PZ-2A-030321</b> Batch ID: <b>R65738</b> Analysis Date: <b>3/9/2021</b> SeqNo: <b>1322</b> 4	177		
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD F	RPDLimit Qual		
Sulfide 2.60 0.500 2.000 0.8000 90.0 74.9 118 3.000 14.3	30		

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Date: 4/13/2021



Work Order: 2103065

**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

Sulfide by SM 4500-S2-F

Sample ID: 2103081-003GDUP SampType: DUP Units: mg/L Prep Date: 3/9/2021 RunNo: 65738

Client ID: BATCH Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 1322487

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

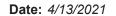
Sulfide ND 0.500 0 30

Client ID: **BATCH** Batch ID: **R65738** Analysis Date: **3/9/2021** SeqNo: **1322488** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sulfide 2.00 0.500 2.000 0.4000 80.0 74.9 118

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

### **Total Organic Carbon by SM 5310C**

Project: Weyer Mill	<u> </u>				Total Organic Sarbon by Sin Son
Sample ID: MB-R65796	SampType: MBLK			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65796
Client ID: MBLKW	Batch ID: R65796				Analysis Date: 3/9/2021 SeqNo: 1323875
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Total Organic Carbon	ND	0.500			
Sample ID: LCS1-R65796	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65796
Client ID: LCSW	Batch ID: R65796				Analysis Date: 3/9/2021 SeqNo: 1323876
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Total Organic Carbon	5.06	0.500	5.000	0	101 89.3 113
Sample ID: <b>2103065-008FDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65796
Client ID: <b>PZ-2A-030321</b>	Batch ID: R65796				Analysis Date: 3/9/2021 SeqNo: 1323890
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Total Organic Carbon	6.63	0.500			6.696 0.975 20
Sample ID: 2103065-008FMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65796
Client ID: <b>PZ-2A-030321</b>	Batch ID: R65796				Analysis Date: 3/9/2021 SeqNo: 1323891
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Total Organic Carbon	11.3	0.500	5.000	6.696	92.9 69.1 120
Sample ID: <b>2103065-008FMSD</b>	SampType: MSD			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65796
Client ID: <b>PZ-2A-030321</b>	Batch ID: R65796				Analysis Date: 3/9/2021 SeqNo: 1323892
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Total Organic Carbon	11.2	0.500	5.000	6.696	90.2 69.1 120 11.34 1.17 30

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Date: 4/13/2021



Work Order: 2103065

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

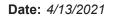
**Total Organic Carbon by SM 5310C** 

Sample ID: 2103081-001FDUP SampType: DUP Units: mg/L Prep Date: 3/10/2021 RunNo: 65796 Client ID: BATCH Batch ID: R65796 Analysis Date: 3/10/2021 SeqNo: 1323867 Analyte Result RL SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual %REC

 Total Organic Carbon
 31.5
 0.500
 31.24
 0.746
 20

Sample ID: 2103081-001FMS SampType: MS Units: mg/L Prep Date: 3/10/2021 RunNo: 65796 Analysis Date: 3/10/2021 Client ID: BATCH Batch ID: R65796 SeqNo: 1323868 Result RL SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte %REC Qual **Total Organic Carbon** 36.0 0.500 5.000 31.24 95.2 69.1 120

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## **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider

### **Dissolved Metals by EPA Method 200.8**

Project: Weyer Mill	E						Dissolved N	letals by EPA Metho	d 200.8
Sample ID: <b>MB-31593</b>	SampType: MBLK			Units: µg/L		Prep Date	e: <b>3/9/2021</b>	RunNo: <b>65759</b>	
Client ID: MBLKW	Batch ID: 31593					Analysis Date	e: <b>3/9/2021</b>	SeqNo: <b>1322962</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLimit	Qual
Arsenic	ND	1.00							
Iron	ND	100							
Manganese	ND	1.80							
Sample ID: LCS-31593	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>3/9/2021</b>	RunNo: <b>65759</b>	
Client ID: LCSW	Batch ID: 31593					Analysis Date	e: <b>3/9/2021</b>	SeqNo: <b>1322963</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLimit	Qual
Arsenic	101	1.00	100.0	0	101	85	115		
Iron	969	100	1,000	0	96.9	50	150		
Manganese	96.3	1.80	100.0	0	96.3	85	115		
Sample ID: <b>2103061-001CDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>3/9/2021</b>	RunNo: <b>65759</b>	
Client ID: BATCH	Batch ID: 31593					Analysis Date	e: <b>3/9/2021</b>	SeqNo: <b>1322965</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLimit	Qual
Arsenic	ND	1.00					5.29	8 153 30	R
Iron	ND	100						0 30	
Manganese	67.5	1.80					65.1	2 3.66 30	
NOTES:  R - High RPD observed. The me	ethod is in control as indicate	ed by the L	.cs.						
Sample ID: <b>2103061-001CMS</b>	SampType: MS			Units: µg/L		Prep Date	e: <b>3/9/2021</b>	RunNo: <b>65759</b>	
Client ID: BATCH	Batch ID: 31593					Analysis Date	e: <b>3/9/2021</b>	SeqNo: <b>1322966</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLimit	Qual
Arsenic	539	1.00	500.0	5.298	107	70	130		
Iron	5,190	100	5,000	32.84	103	50	150		
Manganese	568	1.80	500.0	65.12	101	70	130		

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Date: 4/13/2021



Work Order: 2103065

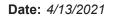
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Dissolved Metals by EPA Method 200.8**

Sample ID: 2103061-001CMSD	SampType: MSD			Units: µg/L		Prep Da	te: <b>3/9/202</b>	1	RunNo: 657	759	
Client ID: BATCH	Batch ID: 31593					Analysis Da	te: <b>3/9/202</b>	1	SeqNo: 132	22969	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	544	1.00	500.0	5.298	108	70	130	538.8	1.03	30	
Iron	4,980	100	5,000	32.84	98.9	50	150	5,185	4.06	30	
Manganese	572	1.80	500.0	65.12	101	70	130	567.8	0.721	30	

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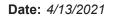
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

### **Total Metals by EPA Method 200.8**

Project: Weyer M	ill E							TOTAL ME	ais by LF	A MELITO	u 200
Sample ID: MB-31562	SampType: MBLK			Units: µg/L		Prep Dat	e: <b>3/5/202</b>	1	RunNo: 656	694	
Client ID: MBLKW	Batch ID: 31562					Analysis Dat	e: <b>3/5/202</b>	1	SeqNo: 132	21575	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									
Sample ID: LCS-31562	SampType: <b>LCS</b>			Units: µg/L		Prep Dat	e: <b>3/5/202</b>	1	RunNo: 656	 694	
Client ID: LCSW	Batch ID: 31562					Analysis Dat	e: <b>3/5/202</b>	1	SeqNo: 132	21576	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	104	1.00	100.0	0	104	85	115				
Calcium	924	200	1,000	0	92.4	50	150				
Magnesium	906	100	1,000	0	90.6	50	150				
Potassium	1,020	200	1,000	0	102	50	150				
Sodium	1,050	200	1,000	0	105	50	150				
Sample ID: CCB-31562B	SampType: CCB			Units: μg/L		Prep Dat	e: <b>3/5/202</b>	1	RunNo: 656	 694	
Client ID: CCB	Batch ID: 31562					Analysis Dat	e: <b>3/5/202</b>	1	SeqNo: 132	21579	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	0.703	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									

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### **QC SUMMARY REPORT**

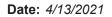
CLIENT: Floyd | Snider

Project: Wever Mill F

### **Total Metals by EPA Method 200.8**

Project: We	eyer Mill E							Total Met	iais by LF	A WELLIOU	1 200.0
Sample ID: <b>2103007-00</b>	<b>1ADUP</b> SampType:	DUP		Units: µg/L		Prep Dat	te: <b>3/5/202</b>	:1	RunNo: 656	594	
Client ID: BATCH	Batch ID:	31562				Analysis Dat	ie: <b>3/5/202</b>	:1	SeqNo: 132	21580	
Analyte	Re	esult RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND 1.00						1.521	63.9	30	
Calcium	4,	,140 200						4,195	1.38	30	
Magnesium	1,	,040 100						984.2	5.51	30	
Potassium		ND 200						0		30	
Sodium	6,	5,470 200						5,892	9.38	30	
Sample ID: <b>2103007-00</b>	1AMS SampType:	MS		Units: µg/L		Prep Dat	te: <b>3/5/202</b>	 !1	RunNo: 656	<del></del> 394	
Client ID: BATCH	Batch ID:	31562				Analysis Dat	ie: <b>3/5/202</b>	:1	SeqNo: 132	21581	
Analyte	Re	esult RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		450 1.00	500.0	1.521	89.8	70	130				
Calcium	9,	,100 200	5,000	4,195	98.2	50	150				
Magnesium	5,	,470 100	5,000	984.2	89.7	70	130				
Potassium	4,	,910 200	5,000	141.3	95.5	50	150				
Sodium	11,	,400 200	5,000	5,892	110	50	150				
Sample ID: <b>2103007-00</b>	1AMSD SampType:	MSD		Units: µg/L		Prep Dat	te: <b>3/5/202</b>	 !1	RunNo: 656	<del></del> 394	
Client ID: BATCH	Batch ID:	31562				Analysis Dat	ie: <b>3/5/202</b>	:1	SeqNo: 132	21582	
Analyte	Re	esult RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		496 1.00	500.0	1.521	98.8	70	130	450.3	9.58	30	
Calcium	8,	,440 200	5,000	4,195	84.9	50	150	9,102	7.55	30	
Magnesium	5,	,020 100	5,000	984.2	80.7	70	130	5,469	8.62	30	
Potassium	4,	,690 200	5,000	141.3	91.0	50	150	4,914	4.68	30	
Sodium	10,	,800 200	5,000	5,892	99.1	50	150	11,370	4.70	30	

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### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

Project: Wever Mill F

### **Total Metals by EPA Method 200.8**

Project: Weyer Mill	E							Total Mc	tais by Li	A MICHIOC	<i>1</i> <u>2</u> 00
Sample ID: MB-31583	SampType: <b>MBLK</b>			Units: µg/L		Prep Da	ite: 3/8/202	21	RunNo: 657	790	
Client ID: MBLKW	Batch ID: 31583					Analysis Da	ite: 3/8/202	21	SeqNo: 132	23697	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									
Sample ID: LCS-31583	SampType: <b>LCS</b>			Units: µg/L		Prep Da	ite: 3/8/202	21	RunNo: 657	<del></del> 790	
Client ID: LCSW	Batch ID: 31583					Analysis Da	ite: 3/8/202	21	SeqNo: 132	23698	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	102	1.00	100.0	0	102	85	115				
Calcium	1,030	200	1,000	0	103	50	150				
Magnesium	1,070	100	1,000	0	107	50	150				
Potassium	962	200	1,000	0	96.2	50	150				
Sodium	1,050	200	1,000	0	105	50	150				
Sample ID: <b>2103073-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Da	ite: 3/8/202	21	RunNo: 657	 790	
Client ID: BATCH	Batch ID: 31583					Analysis Da	ite: 3/8/202	21	SeqNo: 132	23700	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	ND	1.00						2.003	118	30	R
Calcium	9,080	200						8,594	5.47	30	
Magnesium	1,240	100						1,240	0.117	30	
Potassium	792	200						745.7	6.06	30	
Sodium	15,100	200						14,620	3.42	30	
NOTES:											

NOTES:

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R - High RPD observed. The method is in control as indicated by the LCS.

Date: 4/13/2021



Work Order: 2103065

## **QC SUMMARY REPORT**

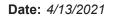
CLIENT: Floyd | Snider
Project: Weyer Mill E

**Total Metals by EPA Method 200.8** 

Sample ID: <b>2103073-001AMS</b>	SampType: MS			Units: µg/L		Prep Da	te: <b>3/8/202</b>	1	RunNo: 657	790	
Client ID: BATCH	Batch ID: 31583					Analysis Da	te: <b>3/8/202</b>	1	SeqNo: 132	23701	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	515	1.00	500.0	2.003	103	70	130				
Calcium	13,600	200	5,000	8,594	100	50	150				
Magnesium	6,350	100	5,000	1,240	102	70	130				
Potassium	6,000	200	5,000	745.7	105	50	150				
Sodium	19,700	200	5,000	14,620	102	50	150				

Sample ID: 2103073-001AMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>3/8/202</b>	:1	RunNo: 657	'90	
Client ID: BATCH	Batch ID: 31583					Analysis Da	te: 3/8/202	:1	SeqNo: 132	23702	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	516	1.00	500.0	2.003	103	70	130	515.0	0.145	30	
Calcium	13,900	200	5,000	8,594	106	50	150	13,600	2.20	30	
Magnesium	6,270	100	5,000	1,240	101	70	130	6,352	1.28	30	
Potassium	5,610	200	5,000	745.7	97.4	50	150	5,999	6.62	30	
Sodium	19,700	200	5,000	14,620	101	50	150	19,730	0.199	30	

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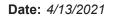
### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

### Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Project: Weyer Mill	<u>E</u>						Diesei	and neavy	On by NV	11 11-DX/1	
Sample ID: <b>MB-31587</b>	SampType: MBLK			Units: µg/L		Prep Dat	te: <b>3/8/202</b>	1	RunNo: 657	64	
Client ID: MBLKW	Batch ID: 31587					Analysis Dat	te: <b>3/9/202</b>	1	SeqNo: 132	3054	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	98.2									
Heavy Oil	ND	98.2									
Surr: 2-Fluorobiphenyl	62.8		78.56		80.0	50	150				
Surr: o-Terphenyl	69.6		78.56		88.6	50	150				
Sample ID: LCS-31587	SampType: <b>LCS</b>			Units: µg/L		Prep Dat	te: <b>3/8/202</b>	1	RunNo: 657	'64	
Client ID: LCSW	Batch ID: 31587					Analysis Dat	te: <b>3/9/202</b>	1	SeqNo: 132	3055	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	626	99.1	991.1	0	63.2	32.2	104				
Surr: 2-Fluorobiphenyl	65.3		79.29		82.3	50	150				
Surr: o-Terphenyl	66.7		79.29		84.2	50	150				
Sample ID: <b>2103065-008JMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Dat	te: <b>3/8/202</b>	1	RunNo: 657	<b>764</b>	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31587					Analysis Dat	te: <b>3/9/202</b>	1	SeqNo: 132	3058	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	825	102	1,015	0	81.3	22.5	114				
Surr: 2-Fluorobiphenyl	61.4		81.21		75.6	50	150				
Surr: o-Terphenyl	64.1		81.21		79.0	50	150				
Sample ID: <b>2103065-010JDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	te: <b>3/8/202</b>	1	RunNo: 657	'64	
Client ID: <b>PZ-3A-030321</b>	Batch ID: 31587					Analysis Dat	te: <b>3/9/202</b>	1	SeqNo: 132	3060	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	99.9						0		30	
Heavy Oil	ND	99.9						0		30	
Surr: 2-Fluorobiphenyl	67.8		79.88		040	50	150		0		
Suit. 2-Fluorobiphenyi	07.0		19.00		84.9	50	150		U		

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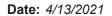
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

rioject. vveyer willing	<b>-</b>							-	-		
Sample ID: <b>2103065-010JDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>3/8/2021</b>		RunNo: 657	<b>'</b> 64	
Client ID: <b>PZ-3A-030321</b>	Batch ID: 31587					Analysis Date	e: <b>3/9/2021</b>		SeqNo: 132	23060	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Sample ID: <b>2103104-001BDUP</b>	SampType: <b>DUP</b>			Units: μg/L		Prep Date	e: <b>3/8/2021</b>		RunNo: 657	764	
Client ID: BATCH	Batch ID: 31587					Analysis Date	e: <b>3/10/2021</b>		SeqNo: 132	23073	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	99.2						0		30	
Heavy Oil	ND	99.2						0		30	
Surr: 2-Fluorobiphenyl	53.8		79.33		67.9	50	150		0		
Surr: o-Terphenyl	63.1		79.33		79.6	50	150		0		
Sample ID: <b>MB-31899</b>	SampType: <b>MBLK</b>			Units: µg/L		Prep Date	e: <b>4/7/2021</b>		RunNo: 664	ļ50	
Client ID: MBLKW	Batch ID: 31899					Analysis Date	e: <b>4/8/2021</b>		SeqNo: 133	37156	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	99.3									
Heavy Oil	ND	99.3									
Total Petroleum Hydrocarbons	144	99.3									
Surr: 2-Fluorobiphenyl	18.2		19.86		91.5	50	150				
Surr: o-Terphenyl	19.3		19.86		97.2	50	150				
Sample ID: LCS-31899	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>4/7/2021</b>		RunNo: 664	150	
Client ID: LCSW	Batch ID: 31899					Analysis Date	e: <b>4/8/2021</b>		SeqNo: 133	37157	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	PD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	812	98.7	987.0	0	82.3	32.2	104				
Surr: 2-Fluorobiphenyl	15.5		19.74		78.6	50	150				
Surr: o-Terphenyl	18.9		19.74								

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Surr: o-Terphenyl

17.8

## **QC SUMMARY REPORT**

## CLIENT: Floyd | Snider

### Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Project: Weyer Mill	E					[	Diesel a	ind Heavy	Oil by NW	TPH-Dx/I	Ox Ext.
Sample ID: 2103065-006JMS	SampType: MS			Units: µg/L		Prep Date:	4/7/202	1	RunNo: 664	450	
Client ID: <b>PZ-1A-030321</b>	Batch ID: 31899					Analysis Date:	4/8/202	1	SeqNo: 13	37405	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	1,450	99.0	990.0	673.4	78.8	22.5	114				Н
Surr: 2-Fluorobiphenyl	16.2		19.80		81.7	50	150				Н
Surr: o-Terphenyl	18.9		19.80		95.5	50	150				Н
Sample ID: <b>2104059-001BDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	4/7/202	1	RunNo: 664	450	
Client ID: BATCH	Batch ID: 31899					Analysis Date:	4/8/202	1	SeqNo: 13	37161	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	98.7						0		30	
Heavy Oil	ND	98.7						0		30	
Total Petroleum Hydrocarbons	ND	98.7						0		30	
Surr: 2-Fluorobiphenyl	17.6		19.74		89.3	50	150		0		
Surr: o-Terphenyl	18.8		19.74		95.5	50	150		0		
Sample ID: <b>2104088-003BDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	4/7/202	1	RunNo: 664	450	
Client ID: BATCH	Batch ID: 31899					Analysis Date:	4/8/202	1	SeqNo: 13	37168	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	99.2						0		30	
Heavy Oil	ND	99.2						0		30	
Total Petroleum Hydrocarbons	ND	99.2						0		30	
Surr: 2-Fluorobiphenyl	16.6		19.84		83.6	50	150		0		

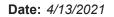
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19.84

50

150

89.7





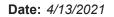
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Pentachlorophenol by EPA Method 8270 (SIM)

Project. Weyer Willi	<u> </u>							_	_
Sample ID: MB-31600	SampType: MBLK			Units: µg/L		Prep Date:	3/9/2021	RunNo: <b>65789</b>	
Client ID: MBLKW	Batch ID: 31600					Analysis Date	3/10/2021	SeqNo: <b>1323570</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	I %RPD RPDLimit	Qual
Pentachlorophenol	ND	0.492							
Surr: 2,4,6-Tribromophenol	3.80		3.936		96.4	58.4	160		
Sample ID: LCS-31600	SampType: LCS			Units: µg/L		Prep Date:	3/9/2021	RunNo: <b>65789</b>	
Client ID: LCSW	Batch ID: 31600					Analysis Date:	3/10/2021	SeqNo: <b>1323571</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Va	l %RPD RPDLimit	Qual
Pentachlorophenol	3.96	0.492	3.937	0	100	48.3	135		
Surr: 2,4,6-Tribromophenol	3.91		3.937		99.3	58.4	160		
Sample ID: LCSD-31600	SampType: <b>LCSD</b>			Units: µg/L		Prep Date:	3/9/2021	RunNo: <b>65789</b>	
Client ID: LCSW02	Batch ID: 31600					Analysis Date:	3/10/2021	SeqNo: <b>1323572</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	I %RPD RPDLimit	Qual
Pentachlorophenol	4.76	0.494	3.956	0	120	48.3	135 3.955	5 18.5 30	
Surr: 2,4,6-Tribromophenol	4.02		3.956		102	58.4	160	0	
Sample ID: <b>2103065-008IMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date:	3/9/2021	RunNo: <b>65789</b>	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31600					Analysis Date:	3/10/2021	SeqNo: <b>1323576</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	l %RPD RPDLimit	Qual
Pentachlorophenol	4.97	0.499	3.991	0	125	28.4	222		
Surr: 2,4,6-Tribromophenol	4.08		3.991		102	58.4	160		

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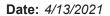
### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill E

### Pentachlorophenol by EPA Method 8270 (SIM)

Project: vveyer will	E							-	•		•
Sample ID: MB-31898	SampType: MBLK			Units: µg/L		Prep Date	: 4/7/202	1	RunNo: 664	166	
Client ID: MBLKW	Batch ID: 31898					Analysis Date	: 4/8/202	1	SeqNo: 133	37294	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol Surr: 2,4,6-Tribromophenol	ND 3.57	0.492	3.934		90.9	58.4	160				
Sample ID: LCS-31898	SampType: <b>LCS</b>			Units: µg/L		Prep Date	: 4/7/202	1	RunNo: 664	166	
Client ID: LCSW	Batch ID: 31898					Analysis Date	: 4/8/202	1	SeqNo: 133	37295	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol Surr: 2,4,6-Tribromophenol	2.53 3.51	0.498	3.984 3.984	0	63.5 88.1	48.3 58.4	135 160				
Sample ID: LCSD-31898	SampType: LCSD			Units: µg/L		Prep Date	: 4/7/202	1	RunNo: 664	166	
Client ID: LCSW02	Batch ID: 31898					Analysis Date	: 4/8/202	1	SeqNo: 133	37296	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol Surr: 2,4,6-Tribromophenol	2.74 3.59	0.497	3.978 3.978	0	68.8 90.1	48.3 58.4	135 160	2.530	7.83 0	30	
Sample ID: 2103065-006IMS	SampType: MS			Units: µg/L		Prep Date	4/7/202	1	RunNo: 664	166	
Sample ID: <b>2103065-006IMS</b> Client ID: <b>PZ-1A-030321</b>	SampType: MS Batch ID: 31898			Units: µg/L		Prep Date Analysis Date			RunNo: 664 SeqNo: 133		
·		RL	SPK value	Units: µg/L SPK Ref Val	%REC	Analysis Date	e: 4/8/202				Qual

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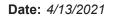
### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

### Gasoline by NWTPH-Gx

Project: Weyer Mill	E								Casonine	by ITTI	\
Sample ID: LCS-31564	SampType: <b>LCS</b>			Units: µg/L		Prep Dat	e: <b>3/5/202</b>	<u>.</u> 1	RunNo: 657	19	
Client ID: LCSW	Batch ID: 31564	4				Analysis Dat	e: <b>3/5/202</b>	1	SeqNo: <b>132</b>	2112	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	518	50.0	500.0	0	104	65	135				
Surr: Toluene-d8	25.2		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	24.8		25.00		99.3	65	135				
Sample ID: MB-31564	SampType: <b>MBL</b>	ζ		Units: µg/L		Prep Dat	e: <b>3/5/202</b>	<u></u> 1	RunNo: 657	 '19	
Client ID: MBLKW	Batch ID: 31564	4				Analysis Dat	e: <b>3/5/202</b>	:1	SeqNo: <b>132</b>	2110	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	ND	50.0									
Surr: Toluene-d8	25.4		25.00		102	65	135				
Surr: 4-Bromofluorobenzene	23.5		25.00		94.2	65	135				
Sample ID: <b>2103065-010HDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	e: <b>3/5/202</b>	<u>.</u>	RunNo: 657	 '19	
Client ID: <b>PZ-3A-030321</b>	Batch ID: 31564	4				Analysis Dat	e: <b>3/6/202</b>	1	SeqNo: 132	2104	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	25.3		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	23.5		25.00		93.8	65	135		0		
Sample ID: <b>2103065-007HDUP</b>	SampType: <b>DUP</b>			Units: μg/L		Prep Dat	e: <b>3/5/202</b>	<u></u>	RunNo: 657	'19	
Client ID: <b>PZ-99-030321</b>	Batch ID: 31564	4				Analysis Dat	e: <b>3/8/202</b>	:1	SeqNo: <b>132</b>	2099	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	6,160	50.0						6,149	0.122	30	Е
Surr: Toluene-d8	26.2		25.00		105	65	135		0		
Surr: 4-Bromofluorobenzene NOTES:	26.6		25.00		106	65	135		0		

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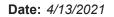
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

### Gasoline by NWTPH-Gx

Project: Weyer Mill I	E								Gasonne	By NVV	FII-C
Sample ID: <b>2103065-008HMS</b>	SampType: MS			Units: µg/L		Prep Date	e: <b>3/5/202</b>	1	RunNo: 657	719	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31564					Analysis Date	e: <b>3/8/202</b>	:1	SeqNo: 132	22101	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	555	50.0	500.0	25.47	106	65	135				
Surr: Toluene-d8	24.6		25.00		98.5	65	135				
Surr: 4-Bromofluorobenzene	24.7		25.00		98.7	65	135				
Sample ID: <b>2103065-008HMSD</b>	SampType: <b>MSD</b>			Units: µg/L		Prep Date	e: <b>3/5/202</b>	1	RunNo: 657	719	
Client ID: <b>PZ-2A-030321</b>	Batch ID: 31564					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	22102	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	494	50.0	500.0	25.47	93.7	65	135	555.2	11.7	30	
Surr: Toluene-d8	24.6		25.00		98.3	65	135		0		
Surr: 4-Bromofluorobenzene	24.6		25.00		98.4	65	135		0		
Sample ID: LCS-31895	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>4/6/202</b>	1	RunNo: 663	385	
Client ID: LCSW	Batch ID: 31895					Analysis Date	e: <b>4/6/202</b>	1	SeqNo: 133	35683	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	418	50.0	500.0	0	83.6	65	135				
Surr: Toluene-d8	25.1		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	25.4		25.00		101	65	135				
Sample ID: MB-31895	SampType: <b>MBLK</b>			Units: µg/L		Prep Date	e: <b>4/6/202</b>	1	RunNo: 663	385	
Client ID: MBLKW	Batch ID: 31895					Analysis Date	e: <b>4/6/202</b>	1	SeqNo: 133	35682	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline	ND	50.0									
Surr: Toluene-d8	23.8		25.00		95.3	65	135				
Surr: 4-Bromofluorobenzene	23.4		25.00		93.7	65	135				

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### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### Casalina by NWTDH Cy

Project: Weyer Mill E	E								Gasoline	by NWT	PH-G
Sample ID: <b>2104061-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	4/6/202	1	RunNo: 663	385	
Client ID: BATCH	Batch ID: 31895					Analysis Date	4/6/202	1	SeqNo: 133	35674	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0	-	30	
Surr: Toluene-d8	24.0		25.00		95.9	65	135		0		
Surr: 4-Bromofluorobenzene	23.9		25.00		95.6	65	135		0		
Sample ID: <b>2104059-001AMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date:	4/6/202	1	RunNo: 663	385	
Client ID: BATCH	Batch ID: 31895					Analysis Date:	4/7/202	1	SeqNo: <b>133</b>	35670	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	388	50.0	500.0	0	77.7	65	135				
Surr: Toluene-d8	25.0		25.00		100	65	135				
Surr: 4-Bromofluorobenzene	25.5		25.00		102	65	135				
Sample ID: <b>2104077-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	4/6/202	1	RunNo: 663	385	
Client ID: BATCH	Batch ID: 31895					Analysis Date:	4/7/202	1	SeqNo: 133	35676	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	23.8		25.00		95.4	65	135		0		
Surr: 4-Bromofluorobenzene	24.3		25.00		97.3	65	135		0		

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## Sample Log-In Check List

С	lient Name:	FS		Work Order Num	nber: <b>2103065</b>	
Lo	ogged by:	Clare Gri	ggs	Date Received:	3/4/2021 1	1:00:00 AM
Cha	nin of Cust	<u>ody</u>				
1.	Is Chain of C	ustody com	plete?	Yes 🗸	No $\square$	Not Present
2.	How was the	sample del	ivered?	<u>Courier</u>		
Log	ı İn					
	Coolers are p	oresent?		Yes 🗸	No 🗌	NA 🗆
4.	Shipping con	tainer/coole	er in good condition?	Yes ✓	No 🗀	_
5.			on shipping container/cooler? Custody Seals not intact)	Yes	No	Not Present ✓
6.	Was an atter	npt made to	cool the samples?	Yes 🗸	No 🗌	NA 🗆
7.	Were all item	s received	at a temperature of >2°C to 6°C *	Yes 🗸	No 🗆	NA 🗌
8.	Sample(s) in	proper con	tainer(s)?	Yes 🗸	No 🗆	
9.	Sufficient sar	mple volum	e for indicated test(s)?	Yes	No 🗹	
10.	Are samples	properly pr	eserved?	Yes 🗸	No 🗌	
11.	Was preserva	ative added	to bottles?	Yes	No 🗸	NA 🗌
12.	Is there head	Ispace in th	e VOA vials?	Yes	No 🗹	NA 🗆
13.	Did all sampl	es containe	ers arrive in good condition(unbroken)?	Yes 🗸	No 🗌	
14.	Does paperw	ork match l	pottle labels?	Yes 🗸	No 🗌	
15.	Are matrices	correctly id	entified on Chain of Custody?	Yes 🗸	No 🗆	
16.	Is it clear wha	at analyses	were requested?	Yes 🗹	No 🗌	
17.	Were all hold	ling times a	ble to be met?	Yes 🗸	No 🗌	
<u>Spe</u>	ecial Handl	ing (if ap	plicable)			
18.	Was client no	otified of all	discrepancies with this order?	Yes 🗸	No 🗌	NA 🗆
	Person	Notified:	Lynn Grochala Date	:	3/4/2021	
	By Who	om:	Clare Griggs Via:	<b>✓</b> eMail □ P	hone  Fax [	In Person
	Regardi	ing:	Confirming Penta method. Sample 14	had no volume for	TOC.	
	Client Ir	nstructions:	8270 SIM okay. Pull TOC volume from	unpreserved poly.		
40	Additional roa	m orko:				

19. Additional remarks:

### **Item Information**

Item #	Temp °C
Sample 1	0.3
Sample 2	4.1
Sample 3	1.3
Sample 4	3.1

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

udielime	Print Marie	3	Namen	x Received to Billy man		12/ 17/2	-	方去	Think Name	x 1845 # 1845	x
JULY 2/4/11 (0) 1100	Maria	7	1990	×	100	-		JUSAY AN	スない	be h	×
Date/Time	Print Name		gnature)	Received (Signature)		- 1			Print Name	Relinquished (Signature)	Relinq
2 Day (specify)	above, that I have verified chem 5 agreement	) , , , ,	iciii nameu a	an or me C	tical on bein	ricmont Analy	eement.	of this Agr	id backside	to each of the terms on the front and backside of this Agreement.	to
□ 3 Day □ Same Day	have varified Clie	hove that I	iont named a	of the C	tical on bah	Analy				that I am authorized to	-
		Ċ	Nitrite	Nitrate+Nitrite	Fluoride	O-Phosphate	Bromide	Lins	Chloride	(Nitrate ) (Nitrite)	··· An
TI V Zn 🚫 Sta	Pb Sb Se Sr Sn Ti	Me Mn Mo Na) Ni		Co Cr Cu Fe Hg K	Be Ca Cd	P=Product, S=Soil, SD=Sediment, SL=Soild,	individua	roduct, S=	O = Other, P = Proc Priority Pollutants	"Matrix: A = Air, AQ = Aqueous, B = Bulk, C  "Metals (Circle): MTCA-5 RCRA-8	**Me
Time pround Time		X		×	X	12	<	1239		-036321	100
	X	X	X			1		1240	-	LLMW-212-030321	٩٢
MS/MSD	×	×	×	×	×	6		Hall		PZ -2A - 030321	® PZ
	XX	×	X	×	X	12		1000		72-99-03032	7 8.
	XX	X	×			2		0380	-	PE-1A-03032]	6 P
	×	×	×			+		0942	3/3/21	MW-085-030321	s MI
	×	×	X			4		1555	<	MW-045-030221	3
	×	X	×			7		1540		MW-075-030221	3 >
	××	×	X			ナ		1435	_	MW-020-030221	2 /
	XXX	X	X		+	4	Sw	1435	3.22	MW-060-030221	3
Comments	STATE OF THE PARTY		THE EDA	State of the state	1 500	# of SOS IERROR	Sample Type (Matrix)*	Sample	Sample Date	Sample Name	Sam
Sal Frair		160	CARRY.		1 1	\ -					
000	oides c	Floyde	1007	rocha	125.6	PM Email: Ly					Fax:
Sample Disposal: Return to client Shisposal by lab (after 30 days)	Sample Dispo	8	hala	Grac	Lynn	Report To (PM):			370	Telephone: 206-292-2078	Telepi
				+ WA	veret	Location:		0	36 X	City, State, Zip: Seattle, W.	City, s
		びの井	Riers	Tosaves	Mark	*		0	27. #S	600 Union	Address:
<del>⊇</del> age					Task 2	Project No: To			7	Floyd Snide	Client:
	Special Remarks:	100	11 E	1	were.	Project Name:		Fax: 206-352-7178		Analytical	
Laboratory Project No (Internal): 2(1) 30U 5		of: Z	Page:		21	Date: 3/2/21		Tel: 206-352-3790	-		
Laboratory Services Agreement	boratory	rd & La	Chain of Custody Recor	ustody	n of C	Chai	Ave N.	3600 Fremont Ave N	3		食

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Page 1 of 2

Page 1 of 2		3	www.fremontanalytical.com	nontana	ww.frer	×				ANC	COC 1.3-11.06.20	COC
Date/Time	Print Name		Sighature	Received (Signature)		3/4/21	0	240	Print Name	1345 1	Relinquished (Signatural)	x Relin
Johnson 3/4/11 (0 1100)	Dayto	7	Signature	x (Sgnature	001	2-4-2		JU SAYAN	MARIC	7	x A M Manufacture)	× Kellin
2 Day (specify)							reement.	of this Ag	d backside	on the front an	to each of the terms on the front and backside of this Agreement.	=
Condy	above, that I have verified Client's agreement	above, that		chalf of the	alytical on b	Fremont An	ment with	his Agree	emer-info	n authorized to	I represent that I am authorized to enter-into this Agreement with Fremont Analytical on behalf of the Client named	_
O Same Day		(	Nitrate+Nitrite	Nitr	hate Fluoride		Bromide	Sulfate	Chloride	(Nitrate) (Nitrite)	**Anions (Circle): (Vit	
TI TI V Zn Standard Next Day	Pb Sb Se Sr Sn	Mo (Na)	$\sim$	Cd Co Cr Cu(	B B (G)	ol: Ag Al (As) B	Individual:	ints TAL		- 1		3
WW = Waste Water Turn-ground Time:	SW = Storm Water,	GW = Ground Water,	ng Water, GW =	r, DW = Drinki	olid, W = Wate	SD = Sediment, SL = Solid, W = Water, DW = Drinking Water,	Soil, SD = S	P = Product, S = Soil,	0 = Other, P =	= Bulk,	Matrix: A = Air, AQ = Aq	eW.e
	XXX	×	×	×	×	12	<	1239	4	030321	10PZ-3A-03	10
	×	×	X			+	F	1240		03052	LLMW-215-03632	9
MS/MSD	×	×	×	×	×	6		Hall		321	PZ -2A - 0303 21	8
•	XXX	X	X	X	X	12		1000		180	PZ-99-03032	7
	XXX	X	×			12		0380	-	32]	Pt-1A-03032	6
	×	×	×			4		0942	3/3/21	085-030321	- S80 - MM	S N
	XXX	×	X			4		1555	<	30221	MW-045-630221	4 2
	X	×	×			7		1540		12 2020	MW-075-030721	3/
	XXX	×	X			ナ	=	1435		-030221	MW-020-03022	2/
	XXX	×	X		-	4	Gw	1435	3.22	122020	MW-060-030221	5
V. V. V. L. T. V. Comments		18 16 6 6 8 7 1	4 (8 % S & S & S & S & S & S & S & S & S & S		Steeling of Contract of Contra	# of Cont.	Sample Type (Matrix)*	Sample	Sample		Sample Name	Sa
Cons	soider c	floyed	ala O	Groch	· var	PM Email:						Fax:
Sample Disposal: Return to client Sp Disposal by lab (after 30 days)	Sample Disp		chala	5 Groc	ch7	Report To (PM):	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		370	292-20	Telephone: 206 -	Tele
			D.	# 2	- Vere	tocation:		101	38	HELOU	City, State, Zip: Seo	City
		オッグ	Tries	Jusaye	Mark	*		10	St. #	Jaion S	Address: 600 (	Add
	בטונס			ry	Task	Project No:				Snide	Floyd #	Client:
M 1 3/4/91 - 696	Special Remarks:		III E		Wen	Project Name:	52-7178	Fax: 206-352-7178		Analytical		
7	Laboratory	of:	Page:		3/2/21	Date: 3/	98103	Tel: 206-352-3790	-			4.00
Laboratory Services Agreement	aboratory	rd & L	<b>Custody Reco</b>	Custoc	Chain of	Ch	Ave N.	3600 Fremont Ave N	<b>-</b>			28

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to ea	to ea	to ea	The state of		***Anio	**Metal	*Matrix:	3 P 2	١٩٢١	8 P2	7 PZ	6 PZ	MM s	4 MW	3 Mu	2 /MM	1	Sampl	Fax:	Telepho	City, State, Zip:	Address:	Client:	F		<b>3</b>
Relinquished (Signature)	and he	Relinquished (Signature)	I represent that I am authorized to enter-into this Agreement with Fremont Analytical on behalf of the Client named to each of the terms on the front and backside of this Agreement.		Anions (Circle): (Nitrate ) (Nitrite	**Metals (Circle): MTCA-5 RCRA-8	= Bulk,	10P2-3A-030321	LLMW-215-030321	PZ -2A - 0303 21	PZ-99-03032	PE-1A-03032]	MW-085-030321	MW-045-030221	MW-075-030221	MW-020-030221	MW-060-030221	Sample Name	V 00 (0,000 00 00 00 00 00 00 00 00 00 00 00 0	Telephone: 206-292-2078	ite, zip: Seattle, W	600 Union	Floyd Snide	Analytical	TEHOLIC	題「ころ)
Print Name	いまれ	Print Name	o en <del>ter in</del> to ind backside			Priority Pollutants	0 = Other, P =	<u></u>					3/3/21	<b>&lt;</b>		_	3.22	Sample Date		370	A %	St. #	7	I GOLD	-	_ 
	MARIC JUSAYAN	0	of this Agre		Sulfate	ants TAL	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water,	1239	1240	Hall	1000	0380	0942	1555	1540	1435	-	Sample Time			101	0		Fax: 206-352-7178	Tel: 206-352-3790	3600 Fremont Ave N.
		ы.	ement.	1	Bromide	Individual:	all, SD = Sed	<	. 1		_			-		_		Sample Type (Matrix)*	70	20	-	0	70			Z
Date/Time	0/01/12-42	Date/Time	remont An		(O-Phosphate	Ag AI (AS) B	liment, SL = S	12	+	6	12	12	+	4	71	ナ	71	# of Joseph	PM Email: L	Report To (PM):	The same of	Collected by:	Project No:	Project Name:	Date: 3/2	Ch:
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	7					NO MO (N	GW = Ground Water,	×	×	×	X	X	×	×	×	×	×	18 C. 68 2	1 floy			ナッグ			oft	ord &
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Vame	MAN	Vame	erified Che			Se Sr Sn Ti	SW = Storm Water, V	×	X	×	X.	X	$\times$	×	\\ \tag{\tag{\tag{\tag{\tag{\tag{\tag{	×	X		05.0	Sample Dispo			X = run	Special Remarks:	Laboratory F	atory
	Johnson		above, that I have verified Chent's agreement			T1 T1 V Zn	WW = Waste Water			MS/MSD								J. S. J.	000	Sample Disposal: 🔲 Return to client			X = run per MJ 4/6/21 -CG	irks:	Laboratory Project No (internal):	<b>Laboratory Services</b>
Date/Time	7 3/4	Date/Time		1	ا ر	Š	ater			$\bigcirc$													/6/21 -CG	0/4/51	rnol):	es Ag
	thi (		2 Day	□ 3 Day		Standard	Turn-ground Time:											Comments		Obsposal by lab (after 30 days)			jac		1030	Agreement
,	CONT.		(specify)	Same Day		□ Next Day	d Time:													fter 30 days)					201	
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3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: MILL E

Work Order Number: 2009179

April 09, 2021

### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 14 sample(s) on 9/11/2020 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Dissolved Organic Carbon by SM 5310C
Ion Chromatography by EPA Method 300.0
Sulfide by SM 4500-S2-F
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 04/09/2021



CLIENT: Floyd | Snider Work Order Sample Summary

**Project:** MILL E **Work Order:** 2009179

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2009179-001	MW-02D-091020	09/10/2020 10:55 AM	09/11/2020 2:53 PM
2009179-002	MW-01S-091020	09/10/2020 11:15 AM	09/11/2020 2:53 PM
2009179-003	MW-01D-091020	09/10/2020 11:15 AM	09/11/2020 2:53 PM
2009179-004	MW-03D-091020	09/10/2020 11:15 AM	09/11/2020 2:53 PM
2009179-005	MW-04S-091020	09/10/2020 1:20 PM	09/11/2020 2:53 PM
2009179-006	MW-06S-091020	09/10/2020 1:50 PM	09/11/2020 2:53 PM
2009179-007	MW-07S-091020	09/10/2020 2:20 PM	09/11/2020 2:53 PM
2009179-008	MW-05S-091020	09/10/2020 1:45 PM	09/11/2020 2:53 PM
2009179-009	MW-10D-091020	09/10/2020 3:10 PM	09/11/2020 2:53 PM
2009179-010	LLMW-18D-091020	09/10/2020 5:10 PM	09/11/2020 2:53 PM
2009179-011	LLMW-19D-091020	09/10/2020 5:20 PM	09/11/2020 2:53 PM
2009179-012	LLMW-21D-091020	09/10/2020 5:30 PM	09/11/2020 2:53 PM
2009179-013	PZ-1B-091020	09/10/2020 4:45 PM	09/11/2020 2:53 PM
2009179-014	LLMW-20D-091120	09/11/2020 10:25 AM	09/11/2020 2:53 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



### Case Narrative

WO#: **2009179**Date: **4/9/2021** 

**CLIENT:** Floyd | Snider

Project: MILL E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

#### Notations:

Filtered volume was used for Alkalinty and Sulfide analysis, therefore results reported should be considered dissolved.

4/9/2021: Revision 1 includes additional case narrative notation.



## **Qualifiers & Acronyms**

WO#: **2009179** 

Date Reported: 4/9/2021

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

CCV - Continued Calibration Verification

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MCL - Maximum Contaminant Level

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 10:55:00 AM

Project: MILL E

Lab ID: 2009179-001 Matrix: Groundwater

Client Sample ID: MW-02D-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	ethod 300.0			Batc	h ID: 296	675 Analyst: SS
Fluoride	1.87	1.00	D	mg/L	10	9/11/2020 5:18:00 PM
Chloride	1,040	50.0	D	mg/L	500	9/14/2020 9:26:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	9/11/2020 5:18:00 PM
Bromide	ND	16.0	D	mg/L	40	9/22/2020 7:49:00 PM
Nitrate (as N)	ND	1.00	D	mg/L	10	9/11/2020 5:18:00 PM
Ortho-Phosphate (as P)	ND	2.00	D	mg/L	10	9/11/2020 5:18:00 PM
Sulfate	110	3.00	D	mg/L	10	9/11/2020 5:18:00 PM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Metho	d 200.8			Batc	h ID: 296	Analyst: CO
Arsenic	4.79	0.500		μg/L	1	9/21/2020 2:29:01 PM
Iron	24,000	100		μg/L	1	9/21/2020 2:29:01 PM
Manganese	1,490	2.00		μg/L	1	9/18/2020 12:14:09 AM
Total Metals by EPA Method 20	0.8			Batc	h ID: 296	662 Analyst: CO
Arsenic	3.86	1.00		μg/L	1	9/18/2020 2:15:32 PM
Calcium	48,500	2,000	D	μg/L	10	9/24/2020 11:12:33 AM
Magnesium	98,300	1,000	D	μg/L	10	9/24/2020 11:12:33 AM
Potassium	33,600	2,000	D	μg/L	10	9/24/2020 11:12:33 AM
Sodium	508,000	2,000	D	μg/L	10	9/24/2020 11:12:33 AM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R6	2116 Analyst: SS
Organic Carbon, Dissolved	14.7	0.500		mg/L	1	9/22/2020 9:16:00 PM
Total Organic Carbon by SM 53	10C			Batc	h ID: R6	1979 Analyst: SS
Total Organic Carbon	14.6	0.500		mg/L	1	9/14/2020 7:53:00 PM
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF
Alkalinity, Total (As CaCO3)	338	2.50		mg/L	1	9/22/2020 9:52:13 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1852 Analyst: SS
Sulfide	1.40	0.500		mg/L	1	9/15/2020 2:45:00 PM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 11:15:00 AM

Project: MILL E

Lab ID: 2009179-002 Matrix: Groundwater

Client Sample ID: MW-01S-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA M	ethod 300.0			Batc	h ID: 296	75 Analyst: SS
Fluoride	ND	10.0	D	mg/L	100	9/11/2020 6:50:00 PM
Chloride	12,300	1,000	D	mg/L	10000	9/14/2020 9:49:00 PM
Nitrite (as N)	ND	10.0	D	mg/L	100	9/11/2020 6:50:00 PM
Bromide	ND	200	D	mg/L	500	9/22/2020 8:12:00 PM
Nitrate (as N)	ND	10.0	D	mg/L	100	9/11/2020 6:50:00 PM
Ortho-Phosphate (as P)	ND	20.0	D	mg/L	100	9/11/2020 6:50:00 PM
Sulfate	1,720	150	D	mg/L	500	9/22/2020 8:12:00 PM
NOTES:						
Diluted due to matrix.						
Dissolved Metals by EPA Metho	od 200.8			Batc	h ID: 296	86 Analyst: CO
Arsenic	5.38	2.50	D	μg/L	5	9/21/2020 2:34:35 PM
Iron	846	500	D	μg/L	5	9/21/2020 2:34:35 PM
Manganese	54.5	10.0	D	μg/L	5	9/21/2020 2:34:35 PM
Total Metals by EPA Method 20	00.8			Batc	h ID: 296	62 Analyst: CO
Arsenic	3.59	5.00	JD	μg/L	5	9/21/2020 12:13:12 PM
Calcium	357,000	20,000	D	μg/L	100	9/24/2020 11:18:07 AM
Magnesium	927,000	10,000	D	μg/L	100	9/24/2020 11:18:07 AM
Potassium	251,000	20,000	D	μg/L	100	9/24/2020 11:18:07 AM
Sodium	6,310,000	20,000	D	μg/L	100	9/24/2020 11:18:07 AM
NOTES:						
Diluted due to matrix.						
Dissolved Organic Carbon by S	M 5310C			Bato	h ID: R62	116 Analyst: SS
Organic Carbon, Dissolved	0.543	0.500		mg/L	1	9/22/2020 11:21:00 PM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R61	979 Analyst: SS
Total Organic Carbon	0.733	0.500		mg/L	1	9/14/2020 8:24:00 PM
Total Alkalinity by SM 2320B				Batc	h ID: R61	995 Analyst: WF
Alkalinity, Total (As CaCO3)	49.0	2.50		mg/L	1	9/22/2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 11:15:00 AM

Project: MILL E

Lab ID: 2009179-002 Matrix: Groundwater

Client Sample ID: MW-01S-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61852
 Analyst: SS

 Sulfide
 1.40
 0.500
 mg/L
 1
 9/15/2020 2:45:00 PM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 11:15:00 AM

Project: MILL E

Lab ID: 2009179-003 Matrix: Groundwater

Client Sample ID: MW-01D-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
lon Chromatography by EPA Method 300.0				Batch ID: 29675 Analyst: SS			
Fluoride	ND	1.00	D	mg/L	10	9/11/2020 7:13:00 PM	
Chloride	920	50.0	D	mg/L	500	9/14/2020 10:12:00 PM	
Nitrite (as N)	ND	1.00	D	mg/L	10	9/11/2020 7:13:00 PM	
Bromide	ND	16.0	D	mg/L	40	9/22/2020 8:36:00 PM	
Nitrate (as N)	ND	1.00	D	mg/L	10	9/11/2020 7:13:00 PM	
Ortho-Phosphate (as P)	ND	2.00	D	mg/L	10	9/11/2020 7:13:00 PM	
Sulfate	140	3.00	D	mg/L	10	9/11/2020 7:13:00 PM	
<b>NOTES:</b> Diluted due to matrix.							
Dissolved Metals by EPA Method 200.8			Batc	Batch ID: 29686 An			
Arsenic	ND	0.500		μg/L	1	9/18/2020 12:25:16 AM	
Iron	4,050	100		μg/L	1	9/21/2020 5:47:30 PM	
Manganese	162	2.00		μg/L	1	9/18/2020 12:25:16 AM	
Total Metals by EPA Method 200.8				Batc	h ID: 29	662 Analyst: CO	
Arsenic	2.53	1.00		μg/L	1	9/18/2020 2:26:40 PM	
Calcium	59,100	2,000	D	μg/L	10	9/24/2020 11:23:41 AM	
Magnesium	82,300	1,000	D	μg/L	10	9/24/2020 11:23:41 AM	
Potassium	29,300	2,000	D	μg/L	10	9/24/2020 11:23:41 AM	
Sodium	478,000	2,000	D	μg/L	10	9/24/2020 11:23:41 AM	
Dissolved Organic Carbon by SM 5310C				Batc	h ID: R6	2116 Analyst: SS	
Organic Carbon, Dissolved	5.71	0.500		mg/L	1	9/23/2020 12:33:00 AM	
Total Organic Carbon by SM 53	10C			Batc	h ID: R6	1979 Analyst: SS	
Total Organic Carbon	5.73	0.500		mg/L	1	9/14/2020 9:31:00 PM	
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF	
Alkalinity, Total (As CaCO3)	220	2.50		mg/L	1	9/22/2020 9:52:13 AM	
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1852 Analyst: SS	
Sulfide	2.00	0.500		mg/L	1	9/15/2020 2:45:00 PM	



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 11:15:00 AM

Project: MILL E

Lab ID: 2009179-004 Matrix: Groundwater

Client Sample ID: MW-03D-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Metho	od 300.0			Bato	h ID: 29	675 Analyst: SS
Fluoride	2.90	0.500	D	mg/L	5	9/11/2020 7:36:00 PM
Chloride	42.6	2.00	D	mg/L	20	9/14/2020 10:35:00 PM
Nitrite (as N)	ND	0.500	D	mg/L	5	9/11/2020 7:36:00 PM
Bromide	ND	2.00	D	mg/L	5	9/22/2020 8:59:00 PM
Nitrate (as N)	ND	0.500	D	mg/L	5	9/11/2020 7:36:00 PM
Ortho-Phosphate (as P)	1.07	1.00	DB	mg/L	5	9/11/2020 7:36:00 PM
Sulfate	ND	1.50	D	mg/L	5	9/11/2020 7:36:00 PM
NOTES:						
Diluted due to matrix.						
B - Indicates a detection in the ICB or CCB.						
Dissolved Metals by EPA Method 2	8.00			Bato	h ID: 29	686 Analyst: CO
Arsenic	18.6	0.500		μg/L	1	9/18/2020 12:30:50 AM
Iron	15,800	100		μg/L	1	9/21/2020 5:53:03 PM
Manganese	298	2.00		μg/L	1	9/18/2020 12:30:50 AM
Total Metals by EPA Method 200.8				Bato	h ID: 29	662 Analyst: CO
		4.00		,,		0/40/0000 0 00 / 4 504
Arsenic	20.4	1.00		μg/L	1	9/18/2020 2:32:14 PM
Calcium	11,200	200	Г.	μg/L	1	9/18/2020 2:32:14 PM
Magnesium	29,200	1,000	D	μg/L	10	9/24/2020 11:29:15 AM
Potassium Sodium	10,900	200 2,000	D	μg/L	1 10	9/18/2020 2:32:14 PM 9/24/2020 11:29:15 AM
Sodium	95,100	2,000	D	μg/L	10	9/24/2020 11.29.15 AW
Dissolved Organic Carbon by SM 5	310C			Bato	h ID: R6	2116 Analyst: SS
Organic Carbon, Dissolved	8.99	0.500		mg/L	1	9/23/2020 12:56:00 AM
Total Organic Carbon by SM 5310C	<u>i</u>			Bato	h ID: R6	1979 Analyst: SS
Total Organic Carbon	10.2	0.500		mg/L	1	9/14/2020 10:03:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	1995 Analyst: WF
Alkalinity, Total (As CaCO3)	338	2.50		mg/L	1	9/22/2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 11:15:00 AM

Project: MILL E

Lab ID: 2009179-004 Matrix: Groundwater

Client Sample ID: MW-03D-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61852
 Analyst: SS

 Sulfide
 2.60
 0.500
 mg/L
 1
 9/15/2020 2:45:00 PM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 1:20:00 PM

Project: MILL E

Lab ID: 2009179-005 Matrix: Groundwater

Client Sample ID: MW-04S-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
lon Chromatography by EPA Method 300.0				Batch ID: 29675 Analyst: SS			
Fluoride	ND	2.00	D	mg/L	20	9/11/2020 8:00:00 PM	
Chloride	2,010	200	D	mg/L	2000	9/14/2020 10:58:00 PM	
Nitrite (as N)	ND	2.00	D	mg/L	20	9/11/2020 8:00:00 PM	
Bromide	ND	40.0	D	mg/L	100	9/22/2020 9:22:00 PM	
Nitrate (as N)	ND	2.00	D	mg/L	20	9/11/2020 8:00:00 PM	
Ortho-Phosphate (as P)	ND	4.00	D	mg/L	20	9/11/2020 8:00:00 PM	
Sulfate	251	6.00	D	mg/L	20	9/11/2020 8:00:00 PM	
<b>NOTES:</b> Diluted due to matrix.							
Dissolved Metals by EPA Method 200.8			Batc	Batch ID: 29686 Analy			
Arsenic	25.4	0.500		μg/L	1	9/18/2020 12:36:23 AM	
Iron	8,020	100		μg/L	1	9/21/2020 5:58:37 PM	
Manganese	1,730	2.00		µg/L	1	9/18/2020 12:36:23 AM	
Total Metals by EPA Method 200.8				Batc	h ID: 296	Analyst: CO	
Arsenic	24.3	1.00		μg/L	1	9/18/2020 2:37:48 PM	
Calcium	173,000	2,000	D	μg/L	10	9/24/2020 11:34:49 AM	
Magnesium	234,000	1,000	D	μg/L	10	9/24/2020 11:34:49 AM	
Potassium	35,600	2,000	D	μg/L	10	9/24/2020 11:34:49 AM	
Sodium	747,000	2,000	D	μg/L	10	9/24/2020 11:34:49 AM	
Dissolved Organic Carbon by SM 5310C		Batc	h ID: R62	2116 Analyst: SS			
Organic Carbon, Dissolved	1.82	0.500		mg/L	1	9/23/2020 1:19:00 AM	
Total Organic Carbon by SM 531	10C			Batc	h ID: R6	1979 Analyst: SS	
Total Organic Carbon	2.08	0.500		mg/L	1	9/14/2020 10:35:00 PM	
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF	
Alkalinity, Total (As CaCO3)	12.2	2.50		mg/L	1	9/22/2020 9:52:13 AM	
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1852 Analyst: SS	
Sulfide	1.40	0.500		mg/L	1	9/15/2020 2:45:00 PM	



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 1:50:00 PM

Project: MILL E

Lab ID: 2009179-006 Matrix: Groundwater

Client Sample ID: MW-06S-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
lon Chromatography by EPA Method 300.0				Batch ID: 29675 Analyst: SS			
Fluoride	ND	2.00	D	mg/L	20	9/11/2020 9:09:00 PM	
Chloride	2,090	200	D	mg/L	2000	9/14/2020 11:22:00 PM	
Nitrite (as N)	ND	2.00	D	mg/L	20	9/11/2020 9:09:00 PM	
Bromide	ND	40.0	D	mg/L	100	9/22/2020 9:45:00 PM	
Nitrate (as N)	ND	2.00	D	mg/L	20	9/11/2020 9:09:00 PM	
Ortho-Phosphate (as P)	ND	4.00	D	mg/L	20	9/11/2020 9:09:00 PM	
Sulfate	280	30.0	D	mg/L	100	9/22/2020 9:45:00 PM	
<b>NOTES:</b> Diluted due to matrix.							
Dissolved Metals by EPA Method 200.8			Batc	Batch ID: 29686 Analyst: CO			
Arsenic	44.8	0.500		μg/L	1	9/18/2020 12:41:57 AM	
Iron	15,700	100		μg/L	1	9/21/2020 6:20:53 PM	
Manganese	2,150	2.00		µg/L	1	9/21/2020 6:20:53 PM	
Total Metals by EPA Method 200.8			Batc	h ID: 296	Analyst: CO		
Arsenic	38.7	1.00		μg/L	1	9/18/2020 2:43:22 PM	
Calcium	446,000	20,000	D	μg/L	100	9/24/2020 11:40:23 AM	
Magnesium	285,000	10,000	D	μg/L	100	9/24/2020 11:40:23 AM	
Potassium	31,400	20,000	D	μg/L	100	9/24/2020 11:40:23 AM	
Sodium	622,000	20,000	D	μg/L	100	9/24/2020 11:40:23 AM	
Dissolved Organic Carbon by Sl	ssolved Organic Carbon by SM 5310C Batch		h ID: R62	2116 Analyst: SS			
Organic Carbon, Dissolved	2.83	0.500		mg/L	1	9/23/2020 1:42:00 AM	
Total Organic Carbon by SM 537	10C			Batc	h ID: R6	1979 Analyst: SS	
Total Organic Carbon	3.07	0.500		mg/L	1	9/14/2020 10:55:00 PM	
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF	
Alkalinity, Total (As CaCO3)	98.0	2.50		mg/L	1	9/22/2020 9:52:13 AM	
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1852 Analyst: SS	
Sulfide	ND	0.500		mg/L	1	9/15/2020 2:45:00 PM	



Work Order: **2009179**Date Reported: **4/9/2021** 

Analyst: SS

Batch ID: R61852

Client: Floyd | Snider Collection Date: 9/10/2020 1:50:00 PM

Project: MILL E

Lab ID: 2009179-006 Matrix: Groundwater

Client Sample ID: MW-06S-091020

Analyses Result RL Qual Units DF Date Analyzed

#### Sulfide by SM 4500-S2-F

NOTES:

Presence of oxidizers indicated during analysis.

Revision v1



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 2:20:00 PM

Project: MILL E

Lab ID: 2009179-007 Matrix: Groundwater

Client Sample ID: MW-07S-091020

Analyses	Result	RL	Qual	Units	DF	: Da	ate Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID:	29676	Analyst: SS
Fluoride	0.858	0.100		mg/L	1	9/15	/2020 12:31:00 AM
Chloride	2.96	0.500	D	mg/L	5		/2020 9:32:00 PM
Nitrite (as N)	ND	0.100	Н	mg/L	1	9/15	/2020 12:31:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	9/11	/2020 9:32:00 PM
Bromide	ND	0.400		mg/L	1	9/15	/2020 12:31:00 AM
Nitrate (as N)	ND	0.500	D	mg/L	5	9/11	/2020 9:32:00 PM
Nitrate (as N)	0.226	0.100	Н	mg/L	1	9/15	/2020 12:31:00 AM
Ortho-Phosphate (as P)	ND	1.00	D	mg/L	5	9/11	/2020 9:32:00 PM
Ortho-Phosphate (as P)	ND	0.200	Н	mg/L	1	9/15	/2020 12:31:00 AM
Sulfate	0.610	0.300		mg/L	1	9/15	/2020 12:31:00 AM
Dissolved Metals by EPA Met	hod 200.8			Bato	h ID:	29686	Analyst: CO
Arsenic	500	0.500		μg/L	1	9/18	/2020 12:58:40 AM
Iron	20,700	100		μg/L	1		/2020 6:26:26 PM
Manganese	2,380	2.00		μg/L	1	9/18	/2020 12:58:40 AM
Total Metals by EPA Method	200.8			Bato	h ID:	29662	Analyst: CO
Arsenic	445	1.00		μg/L	1	9/18	/2020 2:48:57 PM
Calcium	107,000	2,000	D	μg/L	10		/2020 2:40:07 T M
Magnesium	15,300	100	2	μg/L	1		/2020 2:48:57 PM
Potassium	7,010	200		μg/L	1		/2020 2:48:57 PM
Sodium	21,700	200		μg/L	1		/2020 2:48:57 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID:	R62116	Analyst: SS
Organic Carbon, Dissolved	14.7	0.500		mg/L	1	9/23	/2020 2:05:00 AM
Total Organic Carbon by SM 5	5310C			Bato	h ID:	R61979	Analyst: SS
Total Organic Carbon	15.3	0.500		mg/L	1	9/15	/2020 12:19:00 AM
Total Alkalinity by SM 2320B				Bato	h ID:	R61995	Analyst: WF
Alkalinity, Total (As CaCO3)	363	2.50		mg/L	1	9/22	/2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 2:20:00 PM

Project: MILL E

Lab ID: 2009179-007 Matrix: Groundwater

Client Sample ID: MW-07S-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v1



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 1:45:00 PM

Project: MILL E

Lab ID: 2009179-008 Matrix: Groundwater

Client Sample ID: MW-05S-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Me	ethod 300.0			Batc	h ID: 29	675 Analyst: SS
Fluoride	ND	1.00	D	mg/L	10	9/11/2020 9:55:00 PM
Chloride	668	50.0	D	mg/L	500	9/15/2020 2:03:00 AM
Nitrite (as N)	ND	1.00	D	mg/L	10	9/11/2020 9:55:00 PM
Bromide	ND	16.0	D	mg/L	40	9/22/2020 10:09:00 PM
Nitrate (as N)	ND	1.00	D	mg/L	10	9/11/2020 9:55:00 PM
Ortho-Phosphate (as P)	ND	2.00	D	mg/L	10	9/11/2020 9:55:00 PM
Sulfate	103	3.00	D	mg/L	10	9/11/2020 9:55:00 PM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Metho	od 200.8			Batc	h ID: 29	686 Analyst: CO
Arsenic	1,170	0.500		μg/L	1	9/18/2020 1:04:13 AM
Iron	5,130	100		μg/L	1	9/21/2020 6:32:00 PM
Manganese	261	2.00		μg/L	1	9/18/2020 1:04:13 AM
Total Metals by EPA Method 20	0.8			Batc	h ID: 29	662 Analyst: CO
Arsenic	1,040	1.00		μg/L	1	9/18/2020 2:54:31 PM
Calcium	40,600	2,000	D	μg/L	10	9/24/2020 12:02:42 PM
Magnesium	55,700	1,000	D	μg/L	10	9/24/2020 12:02:42 PM
Potassium	31,100	2,000	D	μg/L	10	9/24/2020 12:02:42 PM
Sodium	415,000	2,000	D	μg/L	10	9/24/2020 12:02:42 PM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R6	2116 Analyst: SS
Organic Carbon, Dissolved	9.97	0.500		mg/L	1	9/23/2020 2:28:00 AM
Total Organic Carbon by SM 53	10C			Batc	h ID: R6	1979 Analyst: SS
Total Organic Carbon	10.7	0.500		mg/L	1	9/15/2020 12:39:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF
Alkalinity, Total (As CaCO3)	284	2.50		mg/L	1	9/22/2020 9:52:13 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1944 Analyst: SS
Sulfide	ND	0.500		mg/L	1	9/17/2020 3:40:00 PM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 3:10:00 PM

Project: MILL E

Lab ID: 2009179-009 Matrix: Groundwater

Client Sample ID: MW-10D-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
lon Chromatography by EPA Me	ethod 300.0			Batc	h ID: 2	9675 Analyst: SS	
Fluoride	0.500	0.500	D	mg/L	5	9/11/2020 10:18:00 PM	1
Chloride	102	5.00	D	mg/L	50	9/15/2020 2:27:00 AM	
Nitrite (as N)	ND	0.500	D	mg/L	5	9/11/2020 10:18:00 PM	1
Bromide	ND	2.00	D	mg/L	5	9/22/2020 10:32:00 PM	1
Nitrate (as N)	ND	0.500	D	mg/L	5	9/11/2020 10:18:00 PM	1
Ortho-Phosphate (as P)	ND	1.00	D	mg/L	5	9/11/2020 10:18:00 PM	1
Sulfate	ND	1.50	D	mg/L	5	9/11/2020 10:18:00 PM	1
<b>NOTES:</b> Diluted due to matrix.							
Dissolved Metals by EPA Metho	od 200.8			Batc	h ID: 2	9686 Analyst: CO	
Arsenic	ND	0.500		μg/L	1	9/18/2020 1:09:47 AM	
Iron	3,040	100		μg/L	1	9/21/2020 6:37:33 PM	
Manganese	166	2.00		μg/L	1	9/18/2020 1:09:47 AM	
Total Metals by EPA Method 20	0.8			Batc	h ID: 2	9662 Analyst: CO	
Arsenic	2.09	1.00		μg/L	1	9/18/2020 3:00:05 PM	
Calcium	30,400	2,000	D	μg/L	10	9/24/2020 12:08:16 PM	1
Magnesium	68,500	1,000	D	μg/L	10	9/24/2020 12:08:16 PM	1
Potassium	19,700	200		μg/L	1	9/18/2020 3:00:05 PM	
Sodium	157,000	2,000	D	μg/L	10	9/24/2020 12:08:16 PM	1
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: F	R62116 Analyst: SS	
Organic Carbon, Dissolved	14.6	0.500		mg/L	1	9/23/2020 2:51:00 AM	
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: F	R61979 Analyst: SS	
Total Organic Carbon	4.00	0.500		mg/L	1	9/15/2020 1:01:00 AM	
Total Alkalinity by SM 2320B				Batc	h ID: F	R61995 Analyst: WF	
Alkalinity, Total (As CaCO3)	559	2.50		mg/L	1	9/22/2020 9:52:13 AM	
Sulfide by SM 4500-S2-F				Batc	h ID: F	R61944 Analyst: SS	
Sulfide	2.20	0.500		mg/L	1	9/17/2020 3:40:00 PM	



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 5:10:00 PM

Project: MILL E

Lab ID: 2009179-010 Matrix: Groundwater

Client Sample ID: LLMW-18D-091020

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	thod 300.0			Batc	h ID: 29	675 Analyst: SS
Fluoride	ND	0.500	D	mg/L	5	9/11/2020 10:41:00 PM
Chloride	26.3	1.00	D	mg/L	10	9/15/2020 2:50:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	9/11/2020 10:41:00 PM
Bromide	0.812	0.800	D	mg/L	2	9/22/2020 11:42:00 PM
Nitrate (as N)	ND	0.500	D	mg/L	5	9/11/2020 10:41:00 PM
Ortho-Phosphate (as P)	ND	1.00	D	mg/L	5	9/11/2020 10:41:00 PM
Sulfate	52.9	1.50	D	mg/L	5	9/11/2020 10:41:00 PM
Dissolved Metals by EPA Method	1 200.8			Batc	h ID: 29	686 Analyst: CO
Arsenic	ND	0.500		μg/L	1	9/18/2020 1:15:20 AM
Iron	ND	100		μg/L	1	9/21/2020 6:43:07 PM
Manganese	43.0	2.00		μg/L	1	9/18/2020 1:15:20 AM
Total Metals by EPA Method 200	0.8			Batc	h ID: 29	662 Analyst: CO
Arsenic	ND	1.00		μg/L	1	9/18/2020 3:05:39 PM
Calcium	55,700	2,000	D	μg/L	10	9/24/2020 12:13:50 PM
Magnesium	72,900	1,000	D	μg/L	10	9/24/2020 12:13:50 PM
Potassium	14,300	200		μg/L	1	9/18/2020 3:05:39 PM
Sodium	63,800	2,000	D	μg/L	10	9/24/2020 12:13:50 PM
Dissolved Organic Carbon by SM	<u> 1 5310C</u>			Batc	h ID: R6	S2116 Analyst: SS
Organic Carbon, Dissolved	7.82	0.500		mg/L	1	9/23/2020 4:05:00 AM
Total Organic Carbon by SM 531	<u>0C</u>			Batc	h ID: R6	S1979 Analyst: SS
Total Organic Carbon	7.89	0.500		mg/L	1	9/15/2020 1:23:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	S1995 Analyst: WF
Alkalinity, Total (As CaCO3)	500	2.50		mg/L	1	9/22/2020 9:52:13 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	S1944 Analyst: SS
Sulfide	6.20	0.500		mg/L	1	9/17/2020 3:40:00 PM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 5:20:00 PM

Project: MILL E

Lab ID: 2009179-011 Matrix: Groundwater

Client Sample ID: LLMW-19D-091020

Analyses	Result	RL	Qual	Units	DF	Da	te Analyzed
lon Chromatography by EPA Me	ethod 300.0			Bato	ch ID: 29	675	Analyst: SS
Fluoride	ND	0.500	D	mg/L	5	9/11/	2020 11:04:00 PM
Chloride	76.2	5.00	D	mg/L	50	9/15/	2020 3:59:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	9/11/	2020 11:04:00 PM
Bromide	ND	2.00	D	mg/L	5	9/23/	2020 12:05:00 AM
Nitrate (as N)	ND	0.500	D	mg/L	5	9/11/	2020 11:04:00 PM
Ortho-Phosphate (as P)	1.56	1.00	DB	mg/L	5	9/11/	2020 11:04:00 PM
Sulfate	3.86	1.50	D	mg/L	5	9/11/	2020 11:04:00 PM
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB or C	CCB.						
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 29	686	Analyst: CO
Arsenic	20.9	0.500		μg/L	1	9/17/	2020 11:51:54 PM
Iron	518	100		μg/L	1		2020 5:19:42 PM
Manganese	217	2.00		μg/L	1		2020 11:51:54 PM
Total Metals by EPA Method 20	00.8			Bato	ch ID: 29	662	Analyst: CO
Arsenic	24.3	1.00		/1	1	0/15	2020 2:07:47 PM
Calcium	40,700	2,000	D	μg/L μg/L	10		2020 2.07.47 PM 2020 12:19:24 PM
Magnesium	51,200	1,000	D	μg/L μg/L	10		2020 12:19:24 PM
Potassium	13,800	200	Ь	μg/L	10		2020 12:19:24 1 W
Sodium	100,000	2,000	D	μg/L μg/L	10		2020 2:07:47 T W
Dissolved Organic Carbon by S	SM 5310C			Bato	ch ID: R6	2116	Analyst: SS
Organic Carbon, Dissolved	10.3	0.500		mg/L	1	9/23/	2020 4:28:00 AM
Total Organic Carbon by SM 53	10C			Bato	ch ID: R6	31980	Analyst: SS
Total Organic Carbon	10.7	0.500		mg/L	1	9/15/	2020 9:16:00 PM
Total Alkalinity by SM 2320B				Bato	ch ID: R6	1995	Analyst: WF
Alkalinity, Total (As CaCO3)	412	2.50		mg/L	1	9/22/	2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 5:20:00 PM

Project: MILL E

Lab ID: 2009179-011 Matrix: Groundwater

Client Sample ID: LLMW-19D-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 8.80
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v1



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 5:30:00 PM

Project: MILL E

Lab ID: 2009179-012 Matrix: Groundwater

Client Sample ID: LLMW-21D-091020

Analyses	Result	RL	Qual	Units	DF	Da	ite Analyzed
lon Chromatography by EPA Me	ethod 300.0			Bato	ch ID: 29	675	Analyst: SS
Fluoride	ND	0.200	D	mg/L	2	9/11	/2020 11:27:00 PM
Chloride	26.1	2.00	D	mg/L	20	9/15/	/2020 4:22:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/11/	/2020 11:27:00 PM
Bromide	ND	0.800	D	mg/L	2	9/23/	/2020 1:37:00 AM
Nitrate (as N)	ND	0.200	D	mg/L	2	9/11/	/2020 11:27:00 PM
Ortho-Phosphate (as P)	0.752	0.400	DB	mg/L	2	9/11/	/2020 11:27:00 PM
Sulfate	4.93	0.600	D	mg/L	2	9/11/	/2020 11:27:00 PM
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB or C	CCB.						
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 29	686	Analyst: CO
Arsenic	ND	0.500		μg/L	1	9/18	/2020 1:20:54 AM
Iron	ND	100		μg/L	1	9/21/	/2020 6:48:41 PM
Manganese	43.0	2.00		μg/L	1	9/18/	/2020 1:20:54 AM
Total Metals by EPA Method 20	00.8			Bato	ch ID: 29	662	Analyst: CO
Arsenic	ND	1.00		ug/l	1	0/10	/2020 3:22:22 PM
Calcium	44,300	2,000	D	μg/L μg/L	10		/2020 3.22.22 FW /2020 12:24:58 PM
Magnesium	30,800	1,000	D	μg/L μg/L	10		/2020 12:24:58 PM
Potassium	12,900	200	Б	μg/L	1		/2020 3:22:22 PM
Sodium	58,700	2,000	D	μg/L	10		/2020 12:24:58 PM
Dissolved Organic Carbon by S	M 5310C			Bato	ch ID: R6	2116	Analyst: SS
Organic Carbon, Dissolved	5.82	0.500		mg/L	1	9/23	/2020 4:50:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	ch ID: R6	1979	Analyst: SS
Total Organic Carbon	5.77	0.500		mg/L	1	9/15	/2020 2:06:00 AM
Total Alkalinity by SM 2320B				ŭ	ch ID: R6		Analyst: WF
						- 10 -	
Alkalinity, Total (As CaCO3)	304	2.50		mg/L	1	9/22/	/2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 5:30:00 PM

Project: MILL E

Lab ID: 2009179-012 Matrix: Groundwater

Client Sample ID: LLMW-21D-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 10.6
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v1



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 4:45:00 PM

Project: MILL E

Lab ID: 2009179-013 Matrix: Groundwater

Client Sample ID: PZ-1B-091020

Analyses	Result	RL	Qual	Units	DF	Da	te Analyzed
lon Chromatography by EPA Me	ethod 300.0			Bato	ch ID: 2	29675	Analyst: SS
Fluoride	1.07	0.200	D	mg/L	2	9/11/	/2020 11:51:00 PM
Chloride	12.7	1.00	D	mg/L	10	9/15/	2020 5:32:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/11/	2020 11:51:00 PM
Bromide	ND	0.800	D	mg/L	2	9/23/	2020 2:00:00 AM
Nitrate (as N)	0.522	0.200	D	mg/L	2	9/11/	2020 11:51:00 PM
Ortho-Phosphate (as P)	0.410	0.400	DB	mg/L	2	9/11/	2020 11:51:00 PM
Sulfate	1.28	0.600	D	mg/L	2	9/11/	2020 11:51:00 PM
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB or C	CCB.						
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 2	29686	Analyst: CO
Arsenic	128	0.500		μg/L	1	9/18/	/2020 1:26:27 AM
Iron	15,500	100		μg/L	1	9/21/	2020 6:54:14 PM
Manganese	1,450	2.00		μg/L	1	9/18/	2020 1:26:27 AM
Total Metals by EPA Method 20	00.8			Bato	ch ID: 2	29662	Analyst: CO
Arsenic	116	1.00		μg/L	1	0/18	/2020 3:27:55 PM
Calcium	54,900	2,000	D	μg/L μg/L	10		2020 3:27:331 M
Magnesium	12,800	100		μg/L	1		2020 3:27:55 PM
Potassium	13,900	200		μg/L	1		2020 3:27:55 PM
Sodium	30,800	2,000	D	μg/L	10		2020 12:30:31 PM
Dissolved Organic Carbon by S	M 5310C			Bato	ch ID: F	R62116	Analyst: SS
Organic Carbon, Dissolved	13.6	0.500		mg/L	1	9/23/	2020 5:57:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	ch ID: F	R61979	Analyst: SS
Total Organic Carbon	13.9	0.500		mg/L	1	9/15/	/2020 3:34:00 AM
Total Alkalinity by SM 2320B				Bato	ch ID: F	R61995	Analyst: WF
Alkalinity, Total (As CaCO3)	250	2.50		mg/L	1	9/22/	/2020 9:52:13 AM



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/10/2020 4:45:00 PM

Project: MILL E

Lab ID: 2009179-013 Matrix: Groundwater

Client Sample ID: PZ-1B-091020

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 0.600
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v1



Work Order: **2009179**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:25:00 AM

Project: MILL E

Lab ID: 2009179-014 Matrix: Groundwater

Client Sample ID: LLMW-20D-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	ethod 300.0			Batc	h ID: 296	376 Analyst: SS
Fluoride	ND	10.0	D	mg/L	100	9/15/2020 5:55:00 AM
Chloride	4,320	200	D	mg/L	2000	9/15/2020 11:14:00 AM
Nitrite (as N)	ND	10.0	DH	mg/L	100	9/15/2020 5:55:00 AM
Bromide	ND	40.0	D	mg/L	100	9/15/2020 5:55:00 AM
Nitrate (as N)	ND	10.0	DH	mg/L	100	9/15/2020 5:55:00 AM
Ortho-Phosphate (as P)	ND	20.0	DH	mg/L	100	9/15/2020 5:55:00 AM
Sulfate	581	30.0	D	mg/L	100	9/15/2020 5:55:00 AM
Dissolved Metals by EPA Metho	od 200.8			Batc	h ID: 296	Analyst: CO
Arsenic	15.5	0.500		μg/L	1	9/21/2020 2:40:09 PM
Iron	376	100		μg/L	1	9/21/2020 2:40:09 PM
Manganese	396	2.00		μg/L	1	9/18/2020 1:32:01 AM
Total Metals by EPA Method 20	00.8			Batc	h ID: 296	Analyst: CO
Arsenic	15.6	1.00		μg/L	1	9/18/2020 3:35:52 PM
Calcium	153,000	20,000	D	μg/L	100	9/24/2020 12:36:05 PM
Magnesium	334,000	10,000	D	μg/L	100	9/24/2020 12:36:05 PM
Potassium	99,000	20,000	D	μg/L	100	9/24/2020 12:36:05 PM
Sodium	2,220,000	20,000	D	μg/L	100	9/24/2020 12:36:05 PM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R62	2116 Analyst: SS
Organic Carbon, Dissolved	2.64	0.500		mg/L	1	9/23/2020 6:20:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R6	1979 Analyst: SS
Total Organic Carbon	2.83	0.500		mg/L	1	9/15/2020 3:57:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R6	1995 Analyst: WF
Alkalinity, Total (As CaCO3)	108	2.50		mg/L	1	9/22/2020 9:52:13 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1944 Analyst: SS
Sulfide	ND	0.500		mg/L	1	9/17/2020 3:40:00 PM





CLIENT: Floyd | Snider

MILL E **Project:** 

Alkalinity, Total (As CaCO3)

113

2.50

**QC SUMMARY REPORT** 

**Total Alkalinity by SM 2320B** 

107.8

4.44

20

Sample ID: MB-R61995 SampType: MBLK Units: mg/L Prep Date: 9/22/2020 RunNo: 61995 Client ID: MBLKW Batch ID: R61995 Analysis Date: 9/22/2020 SeqNo: 1243457 SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result RL Qual Alkalinity, Total (As CaCO3) ND 2.50 Prep Date: 9/22/2020 Sample ID: LCS-R61995 SampType: LCS Units: mg/L RunNo: 61995 Client ID: LCSW Batch ID: R61995 Analysis Date: 9/22/2020 SeqNo: 1243458 SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val Analyte Result RL %REC %RPD RPDLimit Qual Alkalinity, Total (As CaCO3) 102 100.0 0 99.6 108 2.50 102 Sample ID: 2009179-002ADUP SampType: DUP Prep Date: 9/22/2020 RunNo: 61995 Units: mg/L Analysis Date: 9/22/2020 Client ID: MW-01S-091020 Batch ID: R61995 SeqNo: 1243461 %REC LowLimit HighLimit RPD Ref Val Analyte Result RL SPK value SPK Ref Val %RPD RPDLimit Qual Alkalinity, Total (As CaCO3) 45.7 2.50 6.90 20 49.00 Sample ID: 2009179-014ADUP SampType: DUP Units: mg/L Prep Date: 9/22/2020 RunNo: 61995 Client ID: LLMW-20D-091120 Batch ID: R61995 Analysis Date: 9/22/2020 SeqNo: 1243474 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### **Dissolved Organic Carbon by SM 5310C**

Project:	MILL E					Dissolved Organic Carbon by SM 531
Sample ID:	MB-R62116	SampType: MBLK			Units: mg/L	Prep Date: 9/22/2020 RunNo: 62116
Client ID:	MBLKW	Batch ID: <b>R62116</b>				Analysis Date: 9/22/2020 SeqNo: 1246135
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Organic Ca	irbon, Dissolved	ND	0.500			
Sample ID:	LCS-R62116	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 9/22/2020 RunNo: 62116
Client ID:	LCSW	Batch ID: <b>R62116</b>				Analysis Date: 9/22/2020 SeqNo: 1246136
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Organic Ca	rbon, Dissolved	5.10	0.500	5.000	0	102 94.4 109
Sample ID:	2009179-001DDUP	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 9/22/2020 RunNo: 62116
Client ID:	MW-02D-091020	Batch ID: R62116				Analysis Date: 9/22/2020 SeqNo: 1246138
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Organic Ca	rbon, Dissolved	14.7	0.500			14.66 0.565 20
Sample ID:	2009179-001DMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 9/22/2020 RunNo: 62116
Client ID:	MW-02D-091020	Batch ID: R62116				Analysis Date: 9/22/2020 SeqNo: 1246139
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Organic Ca	rbon, Dissolved	19.2	0.500	5.000	14.66	90.5 80.9 124
Sample ID:	2009179-001DMSD	SampType: MSD			Units: mg/L	Prep Date: 9/22/2020 RunNo: 62116
Client ID:	MW-02D-091020	Batch ID: R62116				Analysis Date: 9/22/2020 SeqNo: 1246140
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qua
Organic Ca	rbon, Dissolved	19.0	0.500	5.000	14.66	87.3 80.9 124 19.18 0.817 30

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Date: 4/9/2021



MILL E

**Work Order:** 2009179

Project:

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Dissolved Organic Carbon by SM 5310C

Sample ID: 2009179-012DDUP SampType: DUP Units: mg/L Prep Date: 9/23/2020 RunNo: 62116

Client ID: **LLMW-21D-091020** Batch ID: **R62116** Analysis Date: **9/23/2020** SeqNo: **1246156** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Organic Carbon, Dissolved 5.74 0.500 5.823 1.51 20

Client ID: LLMW-21D-091020 Batch ID: R62116 Analysis Date: 9/23/2020 SeqNo: 1246157

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Organic Carbon, Dissolved 10.7 0.500 5.000 5.823 96.9 80.9 124

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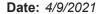


## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: MILL E							lon Ch	romatograp	ohy by EP	A Method	d 300
Sample ID: <b>MB-29675</b>	SampType: MBLK			Units: mg/L		Prep Dat	te: <b>9/11/20</b>	20	RunNo: 618	365	
Client ID: MBLKW	Batch ID: 29675					Analysis Da	te: <b>9/11/20</b>	20	SeqNo: <b>12</b> 4	10694	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.100									
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.200									
Sulfate	ND	0.300									
Sample ID: LCS-29675	SampType: <b>LCS</b>			Units: mg/L		Prep Dat	te: <b>9/11/20</b>	20	RunNo: 618	 365	
Client ID: LCSW	Batch ID: 29675					Analysis Dat	te: <b>9/11/20</b>	20	SeqNo: <b>12</b> 4	10695	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Fluoride	0.474	0.100	0.5000	0	94.8	90	110				
Chloride	0.719	0.100	0.7500	0	95.9	90	110				
Nitrite (as N)	0.719	0.100	0.7500	0	95.9	90	110				
Nitrate (as N)	0.703	0.100	0.7500	0	93.7	90	110				
Ortho-Phosphate (as P)	1.22	0.200	1.250	0	97.8	90	110				
Sulfate	3.66	0.300	3.750	0	97.6	90	110				
Sample ID: <b>2009179-001ADUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Dat	te: <b>9/11/20</b>	20	RunNo: 618	 365	
Client ID: <b>MW-02D-091020</b>	Batch ID: <b>29675</b>			-		Analysis Da	te: <b>9/11/20</b>	20	SeqNo: <b>12</b> 4	10697	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Fluoride	1.81	1.00						1.870	3.26	20	D
Chloride	1,210	1.00						1,241	2.80	20	DE
Nitrite (as N)	ND	1.00						0		20	D
Nitrate (as N)	ND	1.00						0		20	D
Ortho-Phosphate (as P)	ND	2.00						0		20	D
Sulfate	107	3.00						110.2	2.70	20	D

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MILL E

Work Order: 2009179

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Ion Chromatography by EPA Method 300.0

Sample ID: 2009179-001ADUP

SampType: **DUP** 

Units: mg/L

Prep Date: 9/11/2020

RunNo: 61865

Client ID: MW-02D-091020

Batch ID: 29675

Analysis Date: 9/11/2020

SeqNo: 1240697

Result

RL

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit

Qual

NOTES:

Analyte

Project:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Diluted due to matrix.

Sample ID: 2009179-001AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/11/2020</b>	RunNo: <b>61865</b>	
Client ID: MW-02D-091020	Batch ID: 29675					Analysis Da	te: <b>9/11/2020</b>	SeqNo: <b>1240698</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	6.55	1.00	5.000	1.870	93.6	80	120		D
Chloride	1,200	1.00	7.500	1,241	-555	80	120		DES
Nitrite (as N)	5.76	1.00	7.500	0	76.8	80	120		DS
Nitrate (as N)	8.15	1.00	7.500	0	109	80	120		D
Ortho-Phosphate (as P)	ND	2.00	12.50	0	0	80	120		DS
Sulfate	147	3.00	37.50	110.2	99.1	80	120		D

#### NOTES:

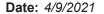
ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies). Diluted due to matrix.

Sample ID: 2009179-001AMSD	SampType: MSD			Units: mg/L		'	te: 9/11/20		RunNo: <b>618</b>		
Client ID: <b>MW-02D-091020</b>	Batch ID: <b>29675</b>					Analysis Da	te: 9/11/20	20	SeqNo: 124	40699	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.55	1.00	5.000	1.870	93.6	80	120	6.550	0	20	D
Chloride	1,200	1.00	7.500	1,241	-576	80	120	1,200	0.135	20	DES
Nitrite (as N)	5.75	1.00	7.500	0	76.7	80	120	5.760	0.174	20	DS
Nitrate (as N)	8.19	1.00	7.500	0	109	80	120	8.150	0.490	20	D
Ortho-Phosphate (as P)	7.91	2.00	12.50	0	63.3	80	120	0	200	20	DS
Sulfate	148	3.00	37.50	110.2	101	80	120	147.4	0.440	20	D

#### NOTES:

ES - Estimated value. The amount exceeds the linear working range of the instrument. Analyte concentration was too high for accurate spike recovery(ies). Diluted due to matrix.

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MILL E

Work Order: 2009179

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### Ion Chromatography by EPA Method 300.0

Sample ID: 2009193-005ADUP	SampType: <b>DUP</b>		Units: mg/L Prep Date: 9/11/2020  Analysis Date: 9/12/2020					RunNo: 618			
Client ID: BATCH	Batch ID: 29675					Analysis Da	te: <b>9/12/2</b> 0	)20	SeqNo: 124	40723	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.15	0.200						1.158	1.04	20	D
Chloride	7.18	0.200						7.258	1.14	20	DE
Nitrite (as N)	ND	0.200						0		20	D
Nitrate (as N)	ND	0.200						0		20	D
Ortho-Phosphate (as P)	ND	0.400						0		20	D
Sulfate	10.7	0.600						10.83	1.00	20	D

#### NOTES

**Project:** 

E - Estimated value. The amount exceeds the linear working range of the instrument.

Diluted due to matrix.

Sample ID: 2009193-005AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/11/202</b>	20	RunNo: 618	365	
Client ID: BATCH	Batch ID: 29675				Analysis Date: 9/12/2020			20	SeqNo: <b>12</b> 4	10724	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.16	0.200	1.000	1.158	99.8	80	120				D
Chloride	8.67	0.200	1.500	7.258	93.9	80	120				DE
Nitrite (as N)	0.478	0.200	1.500	0	31.9	80	120				DS
Nitrate (as N)	1.64	0.200	1.500	0	109	80	120				D
Ortho-Phosphate (as P)	ND	0.400	2.500	0	15.7	80	120				DS
Sulfate	18.7	0.600	7.500	10.83	105	80	120				D

#### NOTES:

S - Outlying spike recovery(ies) observed.

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: LCS-29676	SampType: <b>LCS</b>			Units: mg/L		Prep Da	Prep Date: 9/14/2020			RunNo: <b>61867</b>		
Client ID: LCSW	Batch ID: 29676  Result RI SPK value					Analysis Da	te: <b>9/14/20</b>	20	SeqNo: <b>124</b>	1167		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	0.480	0.100	0.5000	0	96.0	90	110					
Chloride	0.718	0.100	0.7500	0	95.7	90	110					
Nitrite (as N)	0.740	0.100	0.7500	0	98.7	90	110					

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ND

ND

ND

0.100

0.200

0.300

Work Order: 2009179

Nitrate (as N)

Sulfate

Ortho-Phosphate (as P)

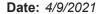
## **QC SUMMARY REPORT**

#### **CLIENT:** Floyd | Snider

Project:	MILL E								lon Ch	romatogra	phy by EP	A Method	300.0
Sample ID: LCS-290	676	SampType	: LCS			Units: mg/L		Prep Da	te: <b>9/14/2</b> 0	)20	RunNo: 618	367	
Client ID: LCSW		Batch ID:	29676					Analysis Da	te: <b>9/14/2</b> 0	)20	SeqNo: <b>12</b> 4	11167	
Analyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide			2.40	0.400	2.500	0	96.0	90	110				
Nitrate (as N)			0.718	0.100	0.7500	0	95.7	90	110				
Ortho-Phosphate (as	s P)		1.22	0.200	1.250	0	97.8	90	110				
Sulfate			3.64	0.300	3.750	0	96.9	90	110				
Sample ID: MB-296	76	SampType	: MBLK			Units: mg/L		Prep Da	te: <b>9/14/2</b> 0	)20	RunNo: 618	367	
Client ID: MBLKW	I	Batch ID:	29676					Analysis Da	te: <b>9/14/2</b> 0	)20	SeqNo: <b>12</b> 4	11168	
Analyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride			ND	0.100									
Chloride			ND	0.100									
Nitrite (as N)			ND	0.100									
Bromide			ND	0.400									

Sample ID: 2009179-007ADUP  Client ID: MW-07S-091020	SampType: DUP Batch ID: 29676			Units: <b>mg/L</b> Prep Date: <b>9/14/2020</b> Analysis Date: <b>9/15/2020</b>					RunNo: <b>618</b> SeqNo: <b>12</b> 4		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.854	0.100						0.8580	0.467	20	
Chloride	3.06	0.100						3.064	0.196	20	E
Nitrite (as N)	ND	0.100						0		20	Н
Bromide	ND	0.400						0		20	
Nitrate (as N)	0.219	0.100						0.2260	3.15	20	Н
Ortho-Phosphate (as P)	ND	0.200						0		20	Н
Sulfate	0.593	0.300						0.6100	2.83	20	

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#### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### Ion Chromatography by EPA Method 300.0

Project: MILL E

SampType: **DUP** 

Units: mg/L

Prep Date: 9/14/2020

RunNo: 61867

Sample ID: 2009179-007ADUP

Result

Analysis Date: 9/15/2020

SeqNo: 1240889

Client ID: MW-07S-091020

Batch ID: 29676

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit Qual

#### NOTES:

Analyte

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009179-007AMS	SampType: <b>MS</b>			Units: mg/L		Prep Dat	te: <b>9/14/2020</b>	RunNo: <b>61867</b>		
Client ID: MW-07S-091020	Batch ID: 29676				Analysis Date: 9/15/2020			SeqNo: <b>12408</b>	890	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD F	RPDLimit	Qual
Fluoride	1.36	0.100	0.5000	0.8580	100	80	120			
Chloride	3.82	0.100	0.7500	3.064	100	80	120			E
Nitrite (as N)	0.745	0.100	0.7500	0	99.3	80	120			Н
Bromide	2.41	0.400	2.500	0.2880	84.9	80	120			
Nitrate (as N)	0.795	0.100	0.7500	0.2260	75.9	80	120			SH
Ortho-Phosphate (as P)	0.243	0.200	1.250	0	19.4	80	120			SH
Sulfate	3.89	0.300	3.750	0.6100	87.5	80	120			

#### NOTES:

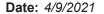
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

RL

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009179-007AMSD	SampType: MSD	SampType: MSD				Prep Dat	te: <b>9/14/20</b>	20	RunNo: 618	367	
Client ID: MW-07S-091020	Batch ID: 29676					Analysis Dat	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	10891	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.37	0.100	0.5000	0.8580	102	80	120	1.360	0.440	20	
Chloride	3.83	0.100	0.7500	3.064	102	80	120	3.815	0.392	20	Ε
Nitrite (as N)	0.746	0.100	0.7500	0	99.5	80	120	0.7450	0.134	20	Н
Bromide	2.44	0.400	2.500	0.2880	86.0	80	120	2.410	1.16	20	
Nitrate (as N)	0.803	0.100	0.7500	0.2260	76.9	80	120	0.7950	1.00	20	SH
Ortho-Phosphate (as P)	0.372	0.200	1.250	0	29.8	80	120	0.2430	42.0	20	SH
Sulfate	4.05	0.300	3.750	0.6100	91.7	80	120	3.891	3.98	20	

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#### **QC SUMMARY REPORT**

#### **CLIENT:** Floyd | Snider

#### Ion Chromatography by EPA Method 300.0

Project: MILL E

SampType: MSD

Units: mg/L

Prep Date: 9/14/2020

RunNo: 61867

Sample ID: 2009179-007AMSD

Analysis Date: 9/15/2020

SeqNo: 1240891

Client ID: MW-07S-091020

Batch ID: 29676

Result

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit

Qual

Analyte

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

RL

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009179-012ADUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>9/14/2</b> 0	20	RunNo: 618	367	
Client ID: <b>LLMW-21D-091020</b>	Batch ID: 29676					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: 124	10905	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	2.00						0		20	D
Chloride	25.6	2.00						26.08	1.86	20	D
Nitrite (as N)	ND	2.00						0		20	DH
Bromide	ND	8.00						0		20	D
Nitrate (as N)	ND	2.00						0		20	DH
Ortho-Phosphate (as P)	ND	4.00						0		20	DH
Sulfate	12.1	6.00						12.24	1.32	20	D

NOTES:

Diluted due to matrix.

Sample ID: 2009179-012AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/14/20</b>	20	RunNo: 618	367	
Client ID: <b>LLMW-21D-091020</b>	Batch ID: 29676					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	10906	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.64	2.00	10.00	0.8200	88.2	80	120				D
Chloride	40.8	2.00	15.00	26.08	98.1	80	120				D
Nitrite (as N)	14.4	2.00	15.00	0	96.1	80	120				DH
Bromide	47.7	8.00	50.00	0	95.3	80	120				D
Nitrate (as N)	14.2	2.00	15.00	0	94.5	80	120				DH
Ortho-Phosphate (as P)	22.8	4.00	25.00	0	91.2	80	120				DH
Sulfate	81.8	6.00	75.00	12.24	92.7	80	120				D

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### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: MILL E						- 1	on Chromatogra	phy by EPA	A Method	0.00E
Sample ID: MB-29758	SampType: MBLK			Units: mg/L		Prep Date:	9/22/2020	RunNo: 620	21	
Client ID: MBLKW	Batch ID: 29758					Analysis Date:	9/22/2020	SeqNo: <b>124</b>	3952	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.400								
Sulfate	ND	0.300								
Sample ID: LCS-29758	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: 620	21	
Client ID: LCSW	Batch ID: 29758					Analysis Date:	9/22/2020	SeqNo: <b>124</b>	3953	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.62	0.400	2.500	0	105	90	110			
Sulfate	4.13	0.300	3.750	0	110	90	110			
Sample ID: <b>2009179-011ADUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: 620	21	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29758					Analysis Date:	9/23/2020	SeqNo: <b>124</b>	3966	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	2.00					0		20	D
Sulfate	8.58	1.50					8.520	0.702	20	D
Sample ID: <b>2009179-011AMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>620</b>	 21	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29758					Analysis Date:	9/23/2020	SeqNo: <b>124</b>	3967	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.8	2.00	12.50	1.740	88.8	80	120			D
Sulfate	27.2	1.50	18.75	8.520	99.4	80	120			D

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MILL E

Work Order: 2009179

### **QC SUMMARY REPORT**

#### **CLIENT:** Floyd | Snider

#### Ion Chromatography by EPA Method 300.0

Sample ID: <b>2009179-011AMSD</b>	SampType: MSD			Units: mg/L		Prep Da	te: <b>9/22/20</b>	)20	RunNo: 620	)21	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29758					Analysis Da	te: <b>9/23/20</b>	)20	SeqNo: 124	13968	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	12.9	2.00	12.50	1.740	89.5	80	120	12.84	0.699	20	D
Sulfate	27.3	1.50	18.75	8.520	100	80	120	27.16	0.514	20	D

Sample ID: 2009339-003EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Dat	te: <b>9/22/20</b>	20	RunNo: 620	)21	
Client ID: BATCH	Batch ID: 29758					Analysis Dat	te: <b>9/23/20</b>	20	SeqNo: <b>12</b> 4	13978	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.400						0		20	
Sulfate	ND	0.300						0.3210	200	20	R

#### NOTES:

Project:

R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID: 2009339-003EMS	SampType: MS			Units: mg/L		Prep Dat	te: <b>9/22/20</b>	20	RunNo: 620	21	
Client ID: BATCH	Batch ID: 29758					Analysis Da	te: <b>9/23/20</b>	20	SeqNo: <b>12</b> 4	3979	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.47	0.400	2.500	0	98.6	80	120				
Sulfate	3.77	0.300	3.750	0.3210	92.0	80	120				

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CLIENT: Floyd | Snider

Project: MILL E

### **QC SUMMARY REPORT**

Sulfide by SM 4500-S2-F

Project: MILL E									Sumue by	y 3141 <del>4</del> 30	0-32-1
Sample ID: MB-R61852	SampType: <b>MBLK</b>			Units: mg/L		Prep Date:	9/15/2020	)	RunNo: 618	352	
Client ID: MBLKW	Batch ID: <b>R61852</b>				Α	nalysis Date:	9/15/2020	)	SeqNo: 124	10497	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	0.500									
Sample ID: LCS-R61852	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/15/2020	)	RunNo: 618	352	
Client ID: LCSW	Batch ID: <b>R61852</b>				Α	nalysis Date:	9/15/2020	)	SeqNo: 124	10498	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	2.20	0.500	2.000	0	110	74.9	118				
Sample ID: LCSD-R61852	SampType: <b>LCSD</b>			Units: mg/L		Prep Date:	9/15/2020	)	RunNo: 618	352	
Client ID: LCSW02	Batch ID: <b>R61852</b>				Α	nalysis Date:	9/15/2020	)	SeqNo: <b>12</b> 4	10499	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	2.40	0.500	2.000	0	120	65	135	2.200	8.70	20	
Sample ID: <b>2009179-001FDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/15/2020	)	RunNo: 618	352	
Client ID: MW-02D-091020	Batch ID: <b>R61852</b>				Α	nalysis Date:	9/15/2020	)	SeqNo: <b>12</b> 4	10501	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	1.40	0.500						1.400	0	30	
Sample ID: MB-R61944	SampType: <b>MBLK</b>			Units: mg/L		Prep Date:	9/17/2020	)	RunNo: 619	944	
Client ID: MBLKW	Batch ID: R61944				Α	nalysis Date:	9/17/2020	)	SeqNo: <b>12</b> 4	12349	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	0.500									

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Project: MILL E						Sulfide by SM 4500-S2-F
Sample ID: LCS-R61944	SampType: LCS			Units: mg/L	Prep Date: <b>9/17/2020</b>	RunNo: <b>61944</b>
Client ID: LCSW	Batch ID: R61944				Analysis Date: 9/17/2020	SeqNo: <b>1242350</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	1.80	0.500	2.000	0	90.0 74.9 118	
Sample ID: <b>2009193-001FDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 9/17/2020	RunNo: <b>61944</b>
Client ID: BATCH	Batch ID: R61944				Analysis Date: 9/17/2020	SeqNo: 1242378
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	1.00	0.500			0.8000	22.2 30
Sample ID: 2009230-001DMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 9/17/2020	RunNo: <b>61944</b>
Client ID: BATCH	Batch ID: R61944				Analysis Date: 9/17/2020	SeqNo: <b>1242384</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	2.20	0.500	2.000	0	110 74.9 118	
Sample ID: <b>2009230-002DDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 9/17/2020	RunNo: <b>61944</b>
Client ID: BATCH	Batch ID: <b>R61944</b>				Analysis Date: 9/17/2020	SeqNo: <b>1242386</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	ND	0.500			0	30
Sample ID: 2009230-002DMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 9/17/2020	RunNo: <b>61944</b>
Client ID: BATCH	Batch ID: R61944				Analysis Date: 9/17/2020	SeqNo: <b>1242387</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Sulfide	1.60	0.500	2.000	0	80.0 74.9 118	

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Date: 4/9/2021



Work Order: 2009179

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Project:	MILL E									Sulfide by	y SM 450	0-S2-F
Sample ID: 2009	9230-002DMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>9/17/20</b>	20	RunNo: 619	)44	
Client ID: BAT	СН	Batch ID: R61944					Analysis Da	te: <b>9/17/20</b>	20	SeqNo: <b>12</b> 4	2388	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		2.00	0.500	2.000	0	100	74.9	118	1.600	22.2	30	

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project: MILL E							lotal Org	anic Carbon by SM	5310C
Sample ID: MB-R61979	SampType: MBLK			Units: mg/L		Prep Date:	9/14/2020	RunNo: <b>61979</b>	
Client ID: MBLKW	Batch ID: R61979					Analysis Date:	9/14/2020	SeqNo: <b>1243098</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	ND	0.500							
Sample ID: LCS-R61979	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/14/2020	RunNo: <b>61979</b>	
Client ID: LCSW	Batch ID: R61979					Analysis Date:	9/14/2020	SeqNo: <b>1243099</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	5.11	0.500	5.000	0	102	90	118		
Sample ID: <b>2009179-002EDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/14/2020	RunNo: <b>61979</b>	
Client ID: MW-01S-091020	Batch ID: R61979					Analysis Date:	9/14/2020	SeqNo: <b>1243102</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	0.709	0.500					0.7330	3.33 20	
Sample ID: <b>2009179-002EMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date:	9/14/2020	RunNo: <b>61979</b>	
Client ID: MW-01S-091020	Batch ID: R61979					Analysis Date:	9/14/2020	SeqNo: <b>1243103</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon NOTES:	3.36	0.500	5.000	0.7330	52.6	80.9	124		S
S - Outlying spike recoveries we	re associated with this sam	ple.							
Sample ID: 2009179-012EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/15/2020	RunNo: <b>61979</b>	
Client ID: LLMW-21D-091020	Batch ID: R61979					Analysis Date:	9/15/2020	SeqNo: <b>1243116</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Total Organic Carbon	5.79	0.500					5.769	0.432 20	

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**CLIENT:** Floyd | Snider

Project: MILL E

### **QC SUMMARY REPORT**

**Total Organic Carbon by SM 5310C** 

Sample ID: 2009179-012EMS	SampType: <b>MS</b>			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	979	
Client ID: <b>LLMW-21D-091020</b>	Batch ID: <b>R61979</b>					Analysis Date	9/15/202	20	SeqNo: 124	13117	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.8	0.500	5.000	5.769	101	80.9	124				
Sample ID: <b>2009179-012EMSD</b>	SampType: MSD			Units: mg/L		Prep Date	9/15/202	20	RunNo: 619	979	
Client ID: <b>LLMW-21D-091020</b>	Batch ID: <b>R61979</b>					Analysis Date	9/15/202	20	SeqNo: 124	13118	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.4	0.500	5.000	5.769	93.3	80.9	124	10.82	3.66	30	
Sample ID: MB-R61980	SampType: <b>MBLK</b>			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	980	
Client ID: MBLKW	Batch ID: R61980					Analysis Date	9/15/202	20	SeqNo: <b>12</b> 4	13162	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									
Sample ID: LCS-R61980	SampType: <b>LCS</b>			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	980	
Client ID: LCSW	Batch ID: R61980					Analysis Date	9/15/202	20	SeqNo: <b>12</b> 4	13163	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.30	0.500	5.000	0	106	90	118				
Sample ID: <b>2009179-011EDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	980	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: R61980					Analysis Date	9/15/202	20	SeqNo: <b>12</b> 4	13165	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	10.8	0.500						10.66	1.58	20	

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project:	MILL E									Total Orga	nic Carbo	on by SM	5310C
Sample ID: 200	09179-011EMS	SampType	: MS			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	980	
Client ID: LL	.MW-19D-091020	Batch ID:	R61980					Analysis Date	9/15/20	20	SeqNo: 124	<del>1</del> 3166	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic 0	Carbon		15.5	0.500	5.000	10.66	96.3	80.9	124				
Sample ID: 200	09179-011EMSD	SampType	: MSD			Units: mg/L		Prep Date	9/15/20	20	RunNo: 619	980	
Client ID: LL	.MW-19D-091020	Batch ID:	R61980					Analysis Date	9/15/20	20	SeqNo: 124	13167	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic O	Carbon		15.1	0.500	5.000	10.66	88.5	80.9	124	15.47	2.54	30	
Sample ID: 200	09193-003EDUP	SampType	: DUP			Units: mg/L		Prep Date	9/16/20	20	RunNo: 619	980	
Client ID: BA	АТСН	Batch ID:	R61980					Analysis Date	9/16/20	20	SeqNo: 124	13173	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic C	Carbon		7.84	0.500						7.948	1.36	20	
Sample ID: 200	09193-003EMS	SampType	: MS			Units: mg/L		Prep Date	9/16/20	20	RunNo: 619	980	
Client ID: BA	АТСН	Batch ID:	R61980					Analysis Date	9/16/20	20	SeqNo: 124	13174	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic C	Carbon		12.6	0.500	5.000	7.948	93.9	80.9	124				
Sample ID: 200	09193-003EMSD	SampType	MSD			Units: mg/L		Prep Date	9/16/20	20	RunNo: 619	980	
Client ID: BA	АТСН	Batch ID:	R61980					Analysis Date	9/16/20	20	SeqNo: 124	13175	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic C	Carbon		12.5	0.500	5.000	7.948	91.2	80.9	124	12.64	1.10	30	

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### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### Dissolved Metals by EPA Method 200.8

Project: MILL E							Dissolved	Metals b	y EPA	A Method	1 200.8
Sample ID: <b>MB-29686</b>	SampType: MBLK			Units: µg/L		Prep Date:	9/16/2020	RunN	lo: <b>619</b>	39	
Client ID: MBLKW	Batch ID: 29686					Analysis Date:	9/17/2020	SeqN	lo: <b>124</b>	2257	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref	f Val %	6RPD	RPDLimit	Qual
Arsenic	ND	0.500									
Manganese	ND	2.00									
Sample ID: LCS-29686	SampType: <b>LCS</b>			Units: µg/L		Prep Date:	9/16/2020	RunN	lo: <b>619</b>	39	
Client ID: LCSW	Batch ID: 29686					Analysis Date	9/17/2020	SeqN	lo: <b>124</b>	2258	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref	f Val %	6RPD	RPDLimit	Qual
Arsenic	101	0.500	100.0	0	101	85	115				
Manganese	111	2.00	100.0	0	111	85	115				
Sample ID: <b>2009179-011CDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date:	9/16/2020	RunN	lo: <b>619</b> :	39	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29686					Analysis Date	9/17/2020	SeqN	lo: <b>124</b>	2262	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref	f Val %	6RPD	RPDLimit	Qual
Arsenic	18.8	0.500					20	0.86	10.5	30	
Manganese	222	2.00					2	16.6	2.66	30	
Sample ID: <b>2009179-011CMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date:	9/16/2020	RunN	lo: <b>619</b> :	39	
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29686					Analysis Date:	9/18/2020	SeqN	lo: <b>124</b>	2263	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref	Val %	6RPD	RPDLimit	Qual
Arsenic	546	0.500	500.0	20.86	105	70	130				
Manganese	750	2.00	500.0	216.6	107	70	130				

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### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### **Dissolved Metals by EPA Method 200.8**

Project:	MILL E							Dis	solved Met	als by EP	A Method	200.8
Sample ID: 2	2009179-011CMSD	SampType: MSD			Units: µg/L		Prep Date:	9/16/20	20	RunNo: 619	39	
Client ID: L	LMW-19D-091020	Batch ID: 29686					Analysis Date:	9/18/20	20	SeqNo: 124	12264	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		584	0.500	500.0	20.86	113	70	130	546.0	6.79	30	
Manganese		817	2.00	500.0	216.6	120	70	130	750.1	8.56	30	
Sample ID: N	MB-29686	SampType: MBLK			Units: µg/L		Prep Date:	9/16/20	20	RunNo: 619	939	
Client ID: N	MBLKW	Batch ID: 29686					Analysis Date:	9/21/20	20	SeqNo: <b>12</b> 4	13501	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		ND	100									
Sample ID: N	MB-29686	SampType: MBLK			Units: µg/L		Prep Date:	9/16/20	20	RunNo: 620	002	
Client ID: N	MBLKW	Batch ID: 29686					Analysis Date:	9/21/20	20	SeqNo: 124	13650	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.500									
Sample ID: L	_CS-29686	SampType: <b>LCS</b>			Units: µg/L		Prep Date:	9/16/20	20	RunNo: 619	939	
Client ID: L	csw	Batch ID: 29686					Analysis Date:	9/21/20	20	SeqNo: <b>12</b> 4	13502	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		917	100	1,000	0	91.7	50	150				
Sample ID: L	_CS-29686	SampType: LCS			Units: µg/L		Prep Date:	9/16/20	20	RunNo: <b>62</b> (	002	
Client ID: L	_csw	Batch ID: 29686					Analysis Date:	9/21/20	20	SeqNo: <b>12</b> 4	13651	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		98.9	0.500	100.0	0	98.9	85	115				

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### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Dissolved Metals by EPA Method 200.8** 

	<i>y</i> 1								Die	solved Met	ale by ED	A Mothod	4 200 8
Project: MI	ILL E								DIS	Solved Wet	iais by EP	A Method	200.6
Sample ID: 2009179-0	11CDUP	SampType:	DUP			Units: µg/L		Prep Date	e: <b>9/16/2</b> 0	20	RunNo: 619	939	
Client ID: LLMW-19D	0-091020	Batch ID:	29686					Analysis Date	e: <b>9/21/20</b>	20	SeqNo: 124	43505	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron			493	100						518.3	5.08	30	
Sample ID: <b>2009179-0</b>	11CDUP	SampType:	: DUP			Units: µg/L		Prep Date	e: <b>9/16/2</b> 0	20	RunNo: 620	002	
Client ID: LLMW-19D	0-091020	Batch ID:	29686					Analysis Date	e: <b>9/21/20</b>	20	SeqNo: 124	43653	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			23.6	0.500						23.91	1.18	30	
Sample ID: <b>2009179-0</b>	11CMS	SampType:	: MS			Units: µg/L		Prep Date	e: <b>9/16/2</b> 0	20	RunNo: 619	939	
Client ID: LLMW-19D	0-091020	Batch ID:	29686					Analysis Date	e: <b>9/21/2</b> 0	20	SeqNo: 124	43506	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron			5,340	100	5,000	518.3	96.4	50	150				
Sample ID: <b>2009179-0</b>	11CMS	SampType:	: MS			Units: µg/L		Prep Date	e: <b>9/16/2</b> 0	20	RunNo: 620	002	
Client ID: LLMW-19E	D-091020	Batch ID:	29686					Analysis Date	e: <b>9/21/20</b>	20	SeqNo: 124	43654	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			586	0.500	500.0	23.91	112	70	130				
Sample ID: <b>2009179-0</b>	11CMSD	SampType:	MSD			Units: µg/L		Prep Date	e: <b>9/16/2</b> 0	20	RunNo: 619	939	
Client ID: LLMW-19D	0-091020	Batch ID:	29686					Analysis Date	e: <b>9/21/2</b> 0	20	SeqNo: 124	43507	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron			5,370	100	5,000	518.3	97.0	50	150	5,339	0.544	30	

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Date: 4/9/2021



MILL E

**Work Order:** 2009179

Project:

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Dissolved Metals by EPA Method 200.8** 

Sample ID: 2009179-011CMSD SampType: MSD Units: µg/L Prep Date: 9/16/2020 RunNo: 62002

Client ID: **LLMW-19D-091020** Batch ID: **29686** Analysis Date: **9/21/2020** SeqNo: **1243655** 

SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result RL Qual 574 0.500 23.91 110 70 130 1.95 30 Arsenic 500.0 585.7

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MILL E

Work Order: 2009179

Project:

Sodium

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Total Metals by EPA Method 200.8

Sample ID: MB-29662	SampType: MBLK		Units: µg/L	Prep Date: 9/14/2020	RunNo: <b>61843</b>
Client ID: MBLKW	Batch ID: 29662			Analysis Date: 9/15/2020	SeqNo: <b>1240371</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref V	al %RPD RPDLimit Qual
Arsenic	ND	1.00			
Calcium	ND	200			
Magnesium	ND	100			
Potassium	ND	200			

Sample ID: LCS-29662	SampType: <b>LCS</b>			Units: µg/L		Prep Da	te: <b>9/14/20</b>	20	RunNo: 618	343	
Client ID: LCSW	Batch ID: 29662				Analysis Date: 9/15/2020				SeqNo: <b>124</b>	0372	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	102	1.00	100.0	0	102	85	115				
Calcium	1,010	200	1,000	0	101	50	150				
Magnesium	913	100	1,000	0	91.3	50	150				
Potassium	946	200	1,000	0	94.6	50	150				
Sodium	1,100	200	1,000	0	110	50	150				

Sample ID: 2009179-011BDUP	SampType: <b>DUP</b>		Units: µg/L	RunNo: <b>61843</b>			
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29662			Analysis Date: 9/15/2020	SeqNo: <b>1240374</b>		
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual		
Arsenic	25.7	1.00		24.27	5.69 30		
Calcium	34,000	200		36,530	7.08 30 E		
Magnesium	44,000	100		49,840	12.4 30 E		
Potassium	12,200	200		13,820	12.6 30		
Sodium	116,000	200		118,800	2.41 30 E		

NOTES:

ND

200

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E - Estimated value. The amount exceeds the linear working range of the instrument.

Date: 4/9/2021



MILL E

Work Order: 2009179

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Total Metals by EPA Method 200.8

Sample ID: 2009179-011BMS	SampType: MS	S Units: µg/L				Prep Date: 9/14/2020			RunNo: <b>61843</b>		
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29662					Analysis Date: 9/15/2020			SeqNo: <b>1240375</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	498	1.00	500.0	24.27	94.7	70	130				
Calcium	38,500	200	5,000	36,530	39.9	50	150				ES
Magnesium	51,000	100	5,000	49,840	23.0	70	130				ES
Potassium	17,100	200	5,000	13,820	65.7	50	150				
Sodium	114,000	200	5,000	118,800	-90.1	50	150				ES

#### NOTES:

**Project:** 

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009179-011BMSD	SampType: MSD			Units: µg/L	Prep Date: 9/14/2020			RunNo: <b>61843</b>				
Client ID: <b>LLMW-19D-091020</b>	Batch ID: 29662					Analysis Date: 9/15/2020				SeqNo: <b>1240376</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic	528	1.00	500.0	24.27	101	70	130	497.6	6.01	30		
Calcium	41,100	200	5,000	36,530	91.2	50	150	38,530	6.44	30	Е	
Magnesium	53,200	100	5,000	49,840	66.2	70	130	50,990	4.15	30	ES	
Potassium	16,900	200	5,000	13,820	61.1	50	150	17,100	1.35	30		
Sodium	117,000	200	5,000	118,800	-33.6	50	150	114,300	2.44	30	ES	

#### NOTES:

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect (Mg, Na).

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect (Mg, Na).

E - Estimated value. The amount exceeds the linear working range of the instrument.



## Sample Log-In Check List

С	lient Name:	FS		Work Order Number: 2009179						
Lo	ogged by:	Clare Griggs		Date Re	eceived:	9/11/2020	2:53:00 PM			
Cha	in of Custo	ody								
		ustody complete?		Yes	<b>✓</b>	No 🗌	Not Present			
2.	How was the	sample delivered?		<u>Cour</u>	<u>ier</u>					
Lon	In									
<u>Log</u>		rocent?		Yes	•	No 🗌	NA 🗌			
3.	Coolers are p	nesent?		162		NO L	NA 🗀			
4.	Shipping conf	tainer/cooler in good condition	?	Yes	<b>✓</b>	No 🗌				
5.		s present on shipping contain ments for Custody Seals not		Yes		No 🗌	Not Present 🗹			
6.	Was an atten	npt made to cool the samples	?	Yes	<b>✓</b>	No 🗌	NA 🗌			
7.	Were all item	s received at a temperature of	f >2°C to 6°C *	Yes	<b>✓</b>	No 🗆	NA 🗌			
8.	Sample(s) in	proper container(s)?		Yes	<b>✓</b>	No $\square$				
9.	Sufficient sample volume for indicated test(s)?				<b>✓</b>	No $\square$				
10.	Are samples	properly preserved?		Yes	✓	No $\square$				
11.	Was preserva	ative added to bottles?		Yes	✓	No 🗌	NA $\square$			
						Zn Acetate & N	IaOH to F fractions			
12.	Is there head	space in the VOA vials?		Yes		No 📙	NA 🗸			
13.	Did all sample	es containers arrive in good co	ondition(unbroken)?	Yes	<b>✓</b>	No 📙				
14.	Does paperw	ork match bottle labels?		Yes	✓	No 🗀				
15.	Are matrices	correctly identified on Chain o	f Custody?	Yes	<b>✓</b>	No 🗌				
		at analyses were requested?		Yes	<b>✓</b>	No 🗌				
17.	Were all hold	ing times able to be met?		Yes	<b>✓</b>	No $\square$				
Spe	cial Handli	ing (if applicable)								
-		otified of all discrepancies with	this order?	Yes		No 🗌	NA 🗸			
	Person	Notified:	Date	e:						
	By Who	m:	Via:	eMa	iil P	hone Fax	In Person			
	Regardi		<u> </u>							
	_	structions:								
19.	Additional rer	narks:								
Item	Information									
		Item #	Temp °C							
	Sample		3.6							

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

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COC 1.2 - 2.22.17



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: MILL E

Work Order Number: 2009193

April 09, 2021

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 15 sample(s) on 9/11/2020 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Dissolved Metals by EPA Method 200.8

Dissolved Organic Carbon by SM 5310C

Gasoline by NWTPH-Gx

Ion Chromatography by EPA Method 300.0

Semivolatile Organic Compounds by EPA Method 8270

Sulfide by SM 4500-S2-F

Total Metals by EPA Method 200.8

Total Alkalinity by SM 2320B

Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910



DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 04/09/2021



CLIENT: Floyd | Snider Work Order Sample Summary

**Project:** MILL E **Work Order:** 2009193

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2009193-001	MW-06D-091120	09/11/2020 10:40 AM	09/11/2020 4:48 PM
2009193-002	MW-05D-091120	09/11/2020 10:40 AM	09/11/2020 4:48 PM
2009193-003	PZ-2A-091120	09/11/2020 12:30 PM	09/11/2020 4:48 PM
2009193-004	MW-08S-091120	09/11/2020 11:45 AM	09/11/2020 4:48 PM
2009193-005	MW-108S-091120	09/11/2020 11:50 AM	09/11/2020 4:48 PM
2009193-006	MW-09D-091120	09/11/2020 8:55 AM	09/11/2020 4:48 PM
2009193-007	PZ-2D-091120	09/11/2020 8:55 AM	09/11/2020 4:48 PM
2009193-008	MW-07D-091120	09/11/2020 9:00 AM	09/11/2020 4:48 PM
2009193-009	MW-04D-091120	09/11/2020 9:13 AM	09/11/2020 4:48 PM
2009193-010	PZ-3A-091120	09/11/2020 2:55 PM	09/11/2020 4:48 PM
2009193-011	PZ-1A-091120	09/11/2020 2:58 PM	09/11/2020 4:48 PM
2009193-012	LLMW-18S-091120	09/11/2020 3:25 PM	09/11/2020 4:48 PM
2009193-013	PZ-99A-091120	09/11/2020 3:05 PM	09/11/2020 4:48 PM
2009193-014	Trip Blank	08/31/2020 10:36 AM	09/11/2020 4:48 PM
2009193-015	MW-08D-091120	09/11/2020 10:35 AM	09/11/2020 4:48 PM



### Case Narrative

WO#: **2009193**Date: **4/9/2021** 

CLIENT: Floyd | Snider

Project: MILL E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

#### Notations:

Filtered volume was used for Alkalinty and Sulfide analysis, therefore results reported should be considered dissolved.

9/28/2020: Revision 1 includes NWTPH-Dx results for all samples. 4/9/2021: Revision 2 includes additional case narrative notation.



### **Qualifiers & Acronyms**

WO#: **2009193** 

Date Reported: 4/9/2021

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

CCV - Continued Calibration Verification

DF - Dilution Factor

DUP - Sample Duplicate

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MCL - Maximum Contaminant Level

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:40:00 AM

Project: MILL E

Lab ID: 2009193-001 Matrix: Groundwater

Client Sample ID: MW-06D-091120

Analyses	Result RL Qual Units DF		DF	Dat	e Analyzed		
Ion Chromatography by EPA I	Method 300.0			Bato	h ID: 29	675	Analyst: SS
Fluoride	0.372	0.200	D	mg/L	2	9/12/2	2020 2:10:00 AM
Chloride	62.4	5.00	D	mg/L	50	9/15/2	020 11:18:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/12/2	2020 2:10:00 AM
Bromide	ND	1.60	D	mg/L	4	9/16/2	2020 2:53:00 PM
Nitrate (as N)	ND	0.200	D	mg/L	2	9/12/2	2020 2:10:00 AM
Ortho-Phosphate (as P)	0.740	0.400	DB	mg/L	2	9/12/2	2020 2:10:00 AM
Sulfate	1.05	0.600	D	mg/L	2	9/12/2	2020 2:10:00 AM
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB o	r CCB.						
Dissolved Metals by EPA Metals		Bato	h ID: 29	708	Analyst: CO		
Arsenic	ND	0.500		μg/L	1	9/17/2	2020 9:16:01 PM
Iron	4,540	100		μg/L	1		2020 9:16:01 PM
Manganese	109	2.00		μg/L	1		2020 9:16:01 PM
Total Metals by EPA Method 2	200.8			Bato	Batch ID: 29688 Ana		Analyst: CO
Arsenic	ND	1.00		μg/L	1		2020 3:28:51 AM
Calcium	15,400	2,000	D	μg/L	10		2020 12:50:45 PM
Magnesium	25,000	1,000	D	μg/L	10		2020 12:50:45 PM
Potassium	11,100	2,000	D	μg/L	10		2020 12:50:45 PM
Sodium	131,000	2,000	D	μg/L	10	9/22/2	2020 12:50:45 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID: R6	32123	Analyst: SS
Organic Carbon, Dissolved	9.61	0.500		mg/L	1	9/24/2	2020 11:04:00 AM
Total Organic Carbon by SM 5	5310C			Bato	h ID: R6	31980	Analyst: SS
Total Organic Carbon	10.7	0.500		mg/L	1	9/15/2	2020 10:44:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	32101	Analyst: WF
Alkalinity, Total (As CaCO3)	348	2.50		mg/L	1	9/24/2	2020 1:14:14 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:40:00 AM

Project: MILL E

Lab ID: 2009193-001 Matrix: Groundwater

Client Sample ID: MW-06D-091120

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 0.800
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:40:00 AM

Project: MILL E

Lab ID: 2009193-002 Matrix: Groundwater

Client Sample ID: MW-05D-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Ion Chromatography by EPA M	ethod 300.0			Bato	h ID: 29	703 Analyst: TN	
Fluoride	0.700	0.200	D	mg/L	2	9/16/2020 11:02:00 AM	
Chloride	38.1	5.00	D	mg/L	50	9/15/2020 6:18:00 PM	
Nitrite (as N)	ND	0.200	DH	mg/L	2	9/16/2020 11:02:00 AM	
Nitrite (as N)	ND	0.500	D	mg/L	5	9/12/2020 1:23:00 AM	
Bromide	ND	0.800	D	mg/L	2	9/16/2020 11:02:00 AM	
Nitrate (as N)	0.525	0.500	D	mg/L	5	9/12/2020 1:23:00 AM	
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/16/2020 11:02:00 AM	
Ortho-Phosphate (as P)	1.63	1.00	DB	mg/L	5	9/12/2020 1:23:00 AM	
Ortho-Phosphate (as P)	ND	0.400	DH	mg/L	2	9/16/2020 11:02:00 AM	
Sulfate	0.714	0.600	D	mg/L	2	9/16/2020 11:02:00 AM	
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB or 0	CCB.						
Dissolved Metals by EPA Metho	od 200.8			Bato	h ID: 29	708 Analyst: CO	
Arsenic	47.9	0.500		μg/L	1	9/17/2020 9:21:35 PM	
Iron	22,700	100		μg/L	1	9/17/2020 9:21:35 PM	
Manganese	1,420	2.00		μg/L	1	9/17/2020 9:21:35 PM	
Total Metals by EPA Method 20	00.8			Bato	h ID: 29	688 Analyst: CO	
Arsenic	57.4	1.00		μg/L	1	9/18/2020 3:34:25 AM	
Calcium	32,200	2,000	D	μg/L	10	9/22/2020 12:56:18 PM	
Magnesium	28,200	1,000	D	μg/L	10	9/22/2020 12:56:18 PM	
Potassium	10,600	2,000	D	μg/L	10	9/22/2020 12:56:18 PM	
Sodium	130,000	2,000	D	μg/L	10	9/22/2020 12:56:18 PM	
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R6	2123 Analyst: SS	
Organic Carbon, Dissolved	13.7	0.500		mg/L	1	9/24/2020 9:39:00 PM	
Total Organic Carbon by SM 53	10C			Bato	h ID: R6	1980 Analyst: SS	
Total Organic Carbon	15.2	0.500		mg/L	1	9/15/2020 11:08:00 PM	
Total Alkalinity by SM 2320B				Bato	h ID: R6	2101 Analyst: WF	
Alkalinity, Total (As CaCO3)	402	2.50		mg/L	1	9/24/2020 1:14:14 PM	



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:40:00 AM

Project: MILL E

Lab ID: 2009193-002 Matrix: Groundwater

Client Sample ID: MW-05D-091120

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 3.20
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 12:30:00 PM

Project: MILL E

Lab ID: 2009193-003 Matrix: Groundwater

Client Sample ID: PZ-2A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Bato	h ID:	29667 Analyst: DW
Diesel (Fuel Oil)	ND	49.9		μg/L	1	9/15/2020 8:25:57 PM
Heavy Oil	224	99.8		μg/L	1	9/15/2020 8:25:57 PM
Surr: 2-Fluorobiphenyl	83.7	50 - 150		%Rec	1	9/15/2020 8:25:57 PM
Surr: o-Terphenyl	80.7	50 - 150		%Rec	1	9/15/2020 8:25:57 PM
Semivolatile Organic Compour		Bato	h ID:	29698 Analyst: SB		
Pentachlorophenol	ND	2.00		μg/L	1	9/25/2020 1:42:46 PM
Surr: 2,4,6-Tribromophenol	111	24.7 - 176		%Rec	1	9/25/2020 1:42:46 PM
Surr: 2-Fluorobiphenyl	105	54.8 - 148		%Rec	1	9/25/2020 1:42:46 PM
Surr: Nitrobenzene-d5	94.6	40.8 - 151		%Rec	1	9/25/2020 1:42:46 PM
Surr: Phenol-d6	33.8	5 - 116		%Rec	1	9/25/2020 1:42:46 PM
Surr: p-Terphenyl	113	51.7 - 162		%Rec	1	9/25/2020 1:42:46 PM
Gasoline by NWTPH-Gx				Bato	ch ID:	29684 Analyst: KT
Gasoline	ND	50.0		μg/L	1	9/16/2020 2:50:38 PM
Surr: Toluene-d8	99.9	65 - 135		%Rec	1	9/16/2020 2:50:38 PM
Surr: 4-Bromofluorobenzene	99.5	65 - 135		%Rec	1	9/16/2020 2:50:38 PM
Ion Chromatography by EPA M	ethod 300.0			Bato	h ID:	29703 Analyst: TN
Fluoride	ND	0.500	D	mg/L	5	9/16/2020 11:25:00 AM
Chloride	128	5.00	D	mg/L	50	9/15/2020 6:41:00 PM
Nitrite (as N)	ND	0.500	DH	mg/L	5	9/16/2020 11:25:00 AM
Bromide	ND	2.00	D	mg/L	5	9/16/2020 11:25:00 AM
Nitrate (as N)	ND	0.500	DH	mg/L	5	9/16/2020 11:25:00 AM
Ortho-Phosphate (as P)	ND	1.00	DH	mg/L	5	9/16/2020 11:25:00 AM
Sulfate	ND	1.50	D	mg/L	5	9/16/2020 11:25:00 AM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Method 200.8				Batch ID:		29708 Analyst: CO
Arsenic	262	0.500		μg/L	1	9/17/2020 8:53:45 PM
Iron	32,000	100		μg/L	1	9/17/2020 8:53:45 PM
Manganese	1,310	2.00		μg/L	1	9/17/2020 8:53:45 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 12:30:00 PM

Project: MILL E

Lab ID: 2009193-003 Matrix: Groundwater

Client Sample ID: PZ-2A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 200.8				Batc	h ID:	29688 Analyst: CO
Arsenic	268	1.00		μg/L	1	9/16/2020 1:36:42 PM
Calcium	56,900	2,000	D	μg/L	10	9/22/2020 12:45:11 PM
Magnesium	13,800	1,000	D	μg/L	10	9/22/2020 12:45:11 PM
Potassium	8,950	2,000	D	μg/L	10	9/22/2020 12:45:11 PM
Sodium	28,000	2,000	D	μg/L	10	9/22/2020 12:45:11 PM
Dissolved Organic Carbon by SM 5	<u>310C</u>			Batc	h ID:	R62123 Analyst: SS
Organic Carbon, Dissolved	7.26	0.500		mg/L	1	9/24/2020 10:01:00 PM
Total Organic Carbon by SM 5310C				Batc	h ID:	R61980 Analyst: SS
Total Organic Carbon	7.95	0.500		mg/L	1	9/16/2020 12:22:00 AM
Total Alkalinity by SM 2320B				Batc	h ID:	R62101 Analyst: WF
Alkalinity, Total (As CaCO3)	88.2	2.50		mg/L	1	9/24/2020 1:14:14 PM
Sulfide by SM 4500-S2-F				Batc	h ID:	R61944 Analyst: SS
Sulfide  NOTES:  Possible strong oxidizers present	ND	0.500		mg/L	1	9/17/2020 3:40:00 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 11:45:00 AM

Project: MILL E

Lab ID: 2009193-004 Matrix: Groundwater

Client Sample ID: MW-08S-091120

Analyses	Result	RL	Qual	Units DF		Date Analyzed	
Ion Chromatography by EPA Meth	nod 300.0			Batc	h ID: 29	703 Analyst: TN	
Fluoride	1.20	0.100		mg/L	1	9/16/2020 4:26:00 PM	
Chloride	6.83	1.00	D	mg/L	10	9/16/2020 12:50:00 AM	
Nitrite (as N)	ND	0.100	Н	mg/L	1	9/16/2020 4:26:00 PM	
Nitrite (as N)	ND	0.200	D	mg/L	2	9/12/2020 2:56:00 AM	
Bromide	ND	0.400		mg/L	1	9/16/2020 4:26:00 PM	
Nitrate (as N)	ND	0.200	D	mg/L	2	9/12/2020 2:56:00 AM	
Nitrate (as N)	0.108	0.100	Н	mg/L	1	9/16/2020 4:26:00 PM	
Ortho-Phosphate (as P)	ND	0.400	D	mg/L	2	9/12/2020 2:56:00 AM	
Ortho-Phosphate (as P)	ND	0.200	Н	mg/L	1	9/16/2020 4:26:00 PM	
Sulfate	10.8	0.300		mg/L	1	9/16/2020 4:26:00 PM	
NOTES:							
Diluted due to matrix.							
Dissolved Metals by EPA Method	200.8			Batc	Batch ID: 29708 Analy		
Arsenic	270	0.500		μg/L	1	9/17/2020 9:38:20 PM	
Iron	14,900	100		μg/L	1	9/17/2020 9:38:20 PM	
Manganese	1,230	2.00		μg/L	1	9/17/2020 9:38:20 PM	
Total Metals by EPA Method 200.	<u>8</u>			Batc	h ID: 29	688 Analyst: CO	
Arsenic	307	1.00		μg/L	1	9/18/2020 3:39:58 AM	
Calcium	54,000	2,000	D	μg/L	10	9/22/2020 1:01:52 PM	
Magnesium	17,100	1,000	D	μg/L	10	9/22/2020 1:01:52 PM	
Potassium	12,000	2,000	D	μg/L	10	9/22/2020 1:01:52 PM	
Sodium	75,000	2,000	D	μg/L	10	9/22/2020 1:01:52 PM	
Dissolved Organic Carbon by SM	<u>5310C</u>			Batc	h ID: R6	2123 Analyst: SS	
Organic Carbon, Dissolved	12.9	0.500		mg/L	1	9/25/2020 12:19:00 AM	
Total Organic Carbon by SM 5310	<u>C</u>			Batc	h ID: R6	1980 Analyst: SS	
Total Organic Carbon	13.7	0.500		mg/L	1	9/16/2020 1:51:00 AM	
Total Alkalinity by SM 2320B				Batc	h ID: R6	2101 Analyst: WF	
Alkalinity, Total (As CaCO3)	363	2.50		mg/L	1	9/24/2020 1:14:14 PM	



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 11:45:00 AM

Project: MILL E

Lab ID: 2009193-004 Matrix: Groundwater

Client Sample ID: MW-08S-091120

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v2



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 11:50:00 AM

Project: MILL E

Lab ID: 2009193-005 Matrix: Groundwater

Client Sample ID: MW-108S-091120

Analyses	es Result RL Qual Units		DF	Date Analyzed		
Ion Chromatography by EPA Met	hod 300.0			Bato	h ID: 29	703 Analyst: TN
Fluoride	1.21	0.100		mg/L	1	9/16/2020 4:02:00 PM
Chloride	6.81	0.500	D	mg/L	5	9/16/2020 12:27:00 AM
Nitrite (as N)	ND	0.100	Н	mg/L	1	9/16/2020 4:02:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/12/2020 3:19:00 AM
Bromide	ND	0.400		mg/L	1	9/16/2020 4:02:00 PM
Nitrate (as N)	ND	0.200	D	mg/L	2	9/12/2020 3:19:00 AM
Nitrate (as N)	ND	0.100	Н	mg/L	1	9/16/2020 4:02:00 PM
Ortho-Phosphate (as P)	ND	0.400	D	mg/L	2	9/12/2020 3:19:00 AM
Ortho-Phosphate (as P)	ND	0.200	Н	mg/L	1	9/16/2020 4:02:00 PM
Sulfate	10.7	0.300		mg/L	1	9/16/2020 4:02:00 PM
NOTES:						
Diluted due to matrix.						
Dissolved Metals by EPA Method	1 200.8			Bato	h ID: 29	708 Analyst: CO
Arsenic	290	0.500		μg/L	1	9/17/2020 9:43:54 PM
Iron	15,300	100		μg/L	1	9/17/2020 9:43:54 PM
Manganese	1,300	2.00		μg/L	1	9/17/2020 9:43:54 PM
Total Metals by EPA Method 200	<u>.8</u>			Bato	h ID: 29	688 Analyst: CO
Arsenic	307	1.00		μg/L	1	9/18/2020 3:45:32 AM
Calcium	56,700	2,000	D	μg/L	10	9/22/2020 1:07:25 PM
Magnesium	16,700	1,000	D	μg/L	10	9/22/2020 1:07:25 PM
Potassium	12,300	2,000	D	μg/L	10	9/22/2020 1:07:25 PM
Sodium	74,100	2,000	D	μg/L	10	9/22/2020 1:07:25 PM
Dissolved Organic Carbon by SN	1 5310C			Bato	h ID: R6	S2123 Analyst: SS
Organic Carbon, Dissolved	13.0	0.500		mg/L	1	9/25/2020 12:41:00 AM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	31980 Analyst: SS
Total Organic Carbon	14.2	0.500		mg/L	1	9/16/2020 2:24:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	S2101 Analyst: WF
Alkalinity, Total (As CaCO3)	368	2.50		mg/L	1	9/24/2020 1:14:14 PM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 11:50:00 AM

Project: MILL E

Lab ID: 2009193-005 Matrix: Groundwater

Client Sample ID: MW-108S-091120

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61944
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 9/17/2020 3:40:00 PM

Revision v2



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 8:55:00 AM

Project: MILL E

Lab ID: 2009193-006 Matrix: Groundwater

Client Sample ID: MW-09D-091120

Analyses	Result	RL	Qual	Units	DF	Da	nte Analyzed
lon Chromatography by EPA Me	thod 300.0			Bato	h ID: 29	9703	Analyst: TN
Fluoride	0.506	0.200	D	mg/L	2	9/16	/2020 11:48:00 AM
Chloride	59.9	5.00	D	mg/L	50	9/15	/2020 7:04:00 PM
Nitrite (as N)	ND	0.200	DH	mg/L	2	9/16	/2020 11:48:00 AM
Bromide	0.868	0.800	D	mg/L	2	9/16	/2020 11:48:00 AM
Nitrate (as N)	ND	0.200	DH	mg/L	2	9/16	/2020 11:48:00 AM
Ortho-Phosphate (as P)	0.750	0.400	DH	mg/L	2	9/16	/2020 11:48:00 AM
Sulfate	ND	0.600	D	mg/L	2	9/16	/2020 11:48:00 AM
NOTES: Diluted due to matrix.							
Dissolved Metals by EPA Method	d 200.8			Bato	h ID: 29	9708	Analyst: CO
Arsenic	ND	0.500		μg/L	1	9/17	/2020 9:49:28 PM
Iron	1,910	100		μg/L	1	9/17	/2020 9:49:28 PM
Manganese	70.7	2.00		μg/L	1	9/17	/2020 9:49:28 PM
Total Metals by EPA Method 200	0.8			Bato	h ID: 29	9688	Analyst: CO
Arsenic	ND	1.00		μg/L	1	9/18	/2020 3:51:05 AM
Calcium	15,400	2,000	D	μg/L	10	9/22	/2020 1:12:59 PM
Magnesium	33,300	1,000	D	μg/L	10	9/22	/2020 1:12:59 PM
Potassium	14,200	2,000	D	μg/L	10	9/22	/2020 1:12:59 PM
Sodium	138,000	2,000	D	μg/L	10	9/22	/2020 1:12:59 PM
Dissolved Organic Carbon by SI	<u> </u>			Bato	h ID: R	62123	Analyst: SS
Organic Carbon, Dissolved	9.58	0.500		mg/L	1	9/25	/2020 1:03:00 AM
Total Organic Carbon by SM 531	10C			Bato	h ID: R	61980	Analyst: SS
Total Organic Carbon	10.7	0.500		mg/L	1	9/16	/2020 2:53:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R	62101	Analyst: WF
Alkalinity, Total (As CaCO3)	441	2.50		mg/L	1	9/24	/2020 1:14:14 PM
Sulfide by SM 4500-S2-F				Bato	h ID: R	61956	Analyst: SS
Sulfide	0.800	0.500		mg/L	1	9/18	/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 8:55:00 AM

Project: MILL E

Lab ID: 2009193-007 Matrix: Groundwater

Client Sample ID: PZ-2D-091120

Analyses	Result	RL	Qual	Units	DF	Da	ite Analyzed
lon Chromatography by EPA M	ethod 300.0			Bato	ch ID: 29	675	Analyst: SS
Fluoride	0.498	0.200	D	mg/L	2	9/12/	/2020 12:14:00 AM
Chloride	72.5	5.00	D	mg/L	50	9/15/	/2020 11:41:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/12/	/2020 12:14:00 AM
Bromide	ND	1.60	D	mg/L	4	9/16/	/2020 3:16:00 PM
Nitrate (as N)	0.210	0.200	D	mg/L	2	9/12/	/2020 12:14:00 AM
Ortho-Phosphate (as P)	1.40	0.400	DB	mg/L	2	9/12/	/2020 12:14:00 AM
Sulfate	ND	0.600	D	mg/L	2	9/12/	/2020 12:14:00 AM
NOTES:							
Diluted due to matrix.							
B - Indicates a detection in the ICB or 0	CCB.						
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 29	708	Analyst: CO
Arsenic	ND	0.500		μg/L	1	9/17/	/2020 9:55:01 PM
Iron	2,610	100		μg/L	1	9/17/	/2020 9:55:01 PM
Manganese	241	2.00		μg/L	1	9/17/	/2020 9:55:01 PM
Total Metals by EPA Method 20	00.8			Bato	h ID: 29	688	Analyst: CO
A	ND	4.00		//	4	0/40	/0000 0 50 00 444
Arsenic	ND	1.00	Б.	μg/L	1 10		/2020 3:56:39 AM
Calcium	16,400 35,000	2,000 1,000	D D	μg/L μg/L	10		/2020 1:18:33 PM /2020 1:18:33 PM
Magnesium Potassium	13,100	2,000	D	μg/L μg/L	10		/2020 1:18:33 PM
Sodium	141,000	2,000	D	μg/L μg/L	10		/2020 1:18:33 PM
Dissolved Organic Carbon by S	·	,			ch ID: R6	2123	Analyst: SS
	12.2	0.500		ma/l	1	0/25	/2020 1:35:00 AM
Organic Carbon, Dissolved	12.2	0.500		mg/L	1	9/23/	2020 1.33.00 AIVI
Total Organic Carbon by SM 53	310C			Bato	ch ID: R6	1980	Analyst: SS
Total Organic Carbon	14.0	0.500		mg/L	1	9/16/	/2020 3:12:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	2122	Analyst: WF
Alkalinity, Total (As CaCO3)	426	2.50		mg/L	1	9/25/	/2020 10:37:57 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 8:55:00 AM

Project: MILL E

Lab ID: 2009193-007 Matrix: Groundwater

Client Sample ID: PZ-2D-091120

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61956
 Analyst: SS

 Sulfide
 0.800
 0.500
 mg/L
 1
 9/18/2020 11:15:00 AM

Revision v2



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 9:00:00 AM

Project: MILL E

Lab ID: 2009193-008 Matrix: Groundwater

Client Sample ID: MW-07D-091120

Analyses	Result	RL	Qual	Units	DF	Date	Analyzed
Ion Chromatography by EPA M	lethod 300.0			Bato	h ID: 296	675	Analyst: SS
Fluoride	0.550	0.500	D	mg/L	5	9/12/20	20 2:33:00 AM
Chloride	77.1	10.0	D	mg/L	100	9/16/20	20 1:14:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	9/12/20	20 2:33:00 AM
Bromide	ND	1.60	D	mg/L	4	9/16/20	20 4:49:00 PM
Nitrate (as N)	ND	0.500	D	mg/L	5	9/12/20	20 2:33:00 AM
Ortho-Phosphate (as P)	ND	1.00	D	mg/L	5	9/12/20	20 2:33:00 AM
Sulfate	2.72	1.20	D	mg/L	4	9/16/20	20 4:49:00 PM
<b>NOTES:</b> Diluted due to matrix.							
Dissolved Metals by EPA Method 200.8 Batch ID: 29708					708	Analyst: CO	
Arsenic	ND	0.500		μg/L	1	9/17/20	20 10:00:35 PM
Iron	7,460	100		μg/L	1	9/17/20	20 10:00:35 PM
Manganese	212	2.00		μg/L	1	9/17/20	20 10:00:35 PM
Total Metals by EPA Method 2	00.8			Bato	h ID: 296	688	Analyst: CO
Arsenic	ND	1.00		μg/L	1	9/18/20	20 4:02:12 AM
Calcium	16,700	2,000	D	μg/L	10	9/22/20	20 1:24:07 PM
Magnesium	30,800	1,000	D	μg/L	10	9/22/20	20 1:24:07 PM
Potassium	14,300	2,000	D	μg/L	10	9/22/20	20 1:24:07 PM
Sodium	164,000	2,000	D	μg/L	10	9/22/20	20 1:24:07 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID: R6	2123	Analyst: SS
Organic Carbon, Dissolved	13.7	0.500		mg/L	1	9/25/20	20 2:04:00 AM
Total Organic Carbon by SM 5	310C			Bato	h ID: R6	1980	Analyst: SS
Total Organic Carbon	15.2	0.500		mg/L	1	9/16/20	20 4:39:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	2122	Analyst: WF
Alkalinity, Total (As CaCO3)	436	2.50		mg/L	1	9/25/20	20 10:37:57 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	1956	Analyst: SS
Sulfide	1.80	0.500		mg/L	1	9/18/20	20 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 9:13:00 AM

Project: MILL E

Lab ID: 2009193-009 Matrix: Groundwater

Client Sample ID: MW-04D-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Me	ethod 300.0			Batc	h ID: 29	675 Analyst: SS
Fluoride	1.23	0.200	D	mg/L	2	9/12/2020 1:46:00 AM
Chloride	168	20.0	D	mg/L	200	9/16/2020 1:37:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	9/12/2020 1:46:00 AM
Bromide	ND	4.00	D	mg/L	10	9/16/2020 5:12:00 PM
Nitrate (as N)	ND	0.200	D	mg/L	2	9/12/2020 1:46:00 AM
Ortho-Phosphate (as P)	ND	0.400	D	mg/L	2	9/12/2020 1:46:00 AM
Sulfate	15.7	0.600	D	mg/L	2	9/12/2020 1:46:00 AM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Metho	d 200.8			Batc	h ID: 29	708 Analyst: CO
Arsenic	178	0.500		μg/L	1	9/17/2020 10:06:08 PM
Iron	9,950	100		μg/L	1	9/17/2020 10:06:08 PM
Manganese	270	2.00		μg/L	1	9/17/2020 10:06:08 PM
Total Metals by EPA Method 20	0.8			Batc	h ID: 29	688 Analyst: CO
Arsenic	226	1.00		μg/L	1	9/18/2020 4:18:55 AM
Calcium	14,500	2,000	D	μg/L	10	9/22/2020 1:29:40 PM
Magnesium	10,600	1,000	D	μg/L	10	9/22/2020 1:29:40 PM
Potassium	4,530	2,000	D	μg/L	10	9/22/2020 1:29:40 PM
Sodium	119,000	2,000	D	μg/L	10	9/22/2020 1:29:40 PM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R6	2123 Analyst: SS
Organic Carbon, Dissolved	6.22	0.500		mg/L	1	9/25/2020 2:23:00 AM
Total Organic Carbon by SM 53	10C			Batc	h ID: R6	1980 Analyst: SS
Total Organic Carbon	7.00	0.500		mg/L	1	9/16/2020 4:59:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R6	2122 Analyst: WF
Alkalinity, Total (As CaCO3)	68.6	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1956 Analyst: SS
Sulfide	ND	0.500		mg/L	1	9/18/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 2:55:00 PM

Project: MILL E

Lab ID: 2009193-010 Matrix: Groundwater

Client Sample ID: PZ-3A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
Diesel and Heavy Oil by NWTPH-	Dx/Dx Ext.			Bato	h ID: 29	9667 Analyst: DW	
Diesel (Fuel Oil)	ND	49.8		μg/L	1	9/15/2020 6:54:09 PM	
Diesel Range Organics (C12-C24)	106	49.8		μg/L	1	9/15/2020 6:54:09 PM	
Heavy Oil	1,380	99.6		μg/L	1	9/15/2020 6:54:09 PM	
Surr: 2-Fluorobiphenyl	82.9	50 - 150		%Rec	1	9/15/2020 6:54:09 PM	
Surr: o-Terphenyl	79.6	50 - 150		%Rec	1	9/15/2020 6:54:09 PM	
NOTES: Diesel Range Organics - Indicates unres	olved compounds	in the Diesel ra	ange incons	istent with a	known pe	etroleum standard.	
Semivolatile Organic Compound	s by EPA Me	thod 8270		Bato	h ID: 29	9698 Analyst: SB	
Pentachlorophenol	ND	1.97		μg/L	1	9/25/2020 2:50:16 PM	
Surr: 2,4,6-Tribromophenol	128	24.7 - 176		%Rec	1	9/25/2020 2:50:16 PM	
Surr: 2-Fluorobiphenyl	129	54.8 - 148		%Rec	1	9/25/2020 2:50:16 PM	
Surr: Nitrobenzene-d5	133	40.8 - 151		%Rec	1	9/25/2020 2:50:16 PM	
Surr: Phenol-d6	48.1	5 - 116		%Rec	1	9/25/2020 2:50:16 PM	
Surr: p-Terphenyl	139	51.7 - 162		%Rec	1	9/25/2020 2:50:16 PM	
Gasoline by NWTPH-Gx				Bato	h ID: 29	9684 Analyst: KT	
Gasoline	ND	500	D	μg/L	10	9/16/2020 3:51:10 PM	
Gasoline Range Organics (C6-C12)	1,210	500	D	μg/L	10	9/16/2020 3:51:10 PM	
Surr: Toluene-d8	100	65 - 135	D	%Rec	10	9/16/2020 3:51:10 PM	
Surr: 4-Bromofluorobenzene	101	65 - 135	D	%Rec	10	9/16/2020 3:51:10 PM	
NOTES:							
GRO - Indicates the presence of unresolution	ved compounds e	eluting from hex	ane to dode	cane (~C6-0	C12).		
Ion Chromatography by EPA Met	thod 300.0			Bato	h ID: 29	Analyst: TN	
Fluoride	5.55	5.00	D	mg/L	50	9/15/2020 7:27:00 PM	
Chloride	29.6	5.00	D	mg/L	50	9/15/2020 7:27:00 PM	
Nitrite (as N)	ND	0.200	DH	mg/L	2	9/16/2020 12:11:00 PM	
Bromide	ND	0.800	D	mg/L	2	9/16/2020 12:11:00 PM	
Nitrate (as N)	0.200	0.200	DH	mg/L	2	9/16/2020 12:11:00 PM	
Ortho-Phosphate (as P)	ND	0.400	DH	mg/L	2	9/16/2020 12:11:00 PM	
Sulfate	0.870	0.600	D	mg/L	2	9/16/2020 12:11:00 PM	
	3.0.0	0.000	_	····ə· =	-		

NOTES:

Diluted due to matrix.



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 2:55:00 PM

Project: MILL E

Lab ID: 2009193-010 Matrix: Groundwater

Client Sample ID: PZ-3A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Metho	d 200.8			Bato	h ID: 29	708 Analyst: CO
Arsenic	632	0.500		μg/L	1	9/17/2020 10:11:42 PM
Iron	52,900	100		μg/L	1	9/17/2020 10:11:42 PM
Manganese	1,420	2.00		μg/L	1	9/17/2020 10:11:42 PM
Total Metals by EPA Method 20	0.8			Bato	h ID: 29	688 Analyst: CO
Arsenic	674	1.00		μg/L	1	9/18/2020 4:24:28 AM
Calcium	45,900	2,000	D	μg/L	10	9/22/2020 1:46:23 PM
Magnesium	17,200	1,000	D	μg/L	10	9/22/2020 1:46:23 PM
Potassium	9,000	2,000	D	μg/L	10	9/22/2020 1:46:23 PM
Sodium	58,000	2,000	D	μg/L	10	9/22/2020 1:46:23 PM
Dissolved Organic Carbon by Si	M 5310C			Bato	h ID: R6	S2123 Analyst: SS
Organic Carbon, Dissolved	11.2	0.500		mg/L	1	9/25/2020 2:45:00 AM
Total Organic Carbon by SM 53	10C			Bato	h ID: R6	S1980 Analyst: SS
Total Organic Carbon	14.2	0.500		mg/L	1	9/16/2020 5:32:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	S2122 Analyst: WF
Alkalinity, Total (As CaCO3)	255	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	S1956 Analyst: SS
Sulfide	ND	0.500		mg/L	1	9/18/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 2:58:00 PM

Project: MILL E

Lab ID: 2009193-011 Matrix: Groundwater

Client Sample ID: PZ-1A-091120

Cilent Sample ID: PZ-1A-091120 Analyses	Result	RL	Qual	Units	DF	D	Date Analyzed	
Diesel and Heavy Oil by NWTPI	I-Dx/Dx Ext.			Bato	h ID:	29667	Analyst: DW	
Diesel (Fuel Oil)	ND	49.6		μg/L	1	9/15	5/2020 7:24:41 PM	
Diesel Range Organics (C12-C24)	326	49.6		μg/L	1		5/2020 7:24:41 PM	
Heavy Oil	1,580	99.1		μg/L	1		5/2020 7:24:41 PM	
Surr: 2-Fluorobiphenyl	74.1	50 - 150		%Rec	1		5/2020 7:24:41 PM	
Surr: o-Terphenyl	71.8	50 - 150		%Rec	1		5/2020 7:24:41 PM	
NOTES:					•			
Diesel Range Organics - Indicates unre	solved compounds	in the Diesel ra	ange incons	istent with a	known	petroleum	standard.	
Semivolatile Organic Compoun	ds by EPA Met	thod 8270		Bato	h ID:	29698	Analyst: SB	
Pentachlorophenol	ND	1.99		μg/L	1	9/25	5/2020 3:12:40 PM	
Surr: 2,4,6-Tribromophenol	101	24.7 - 176		%Rec	1		5/2020 3:12:40 PM	
Surr: 2-Fluorobiphenyl	94.5	54.8 - 148		%Rec	1		5/2020 3:12:40 PM	
Surr: Nitrobenzene-d5	98.8	40.8 - 151		%Rec	1		5/2020 3:12:40 PM	
Surr: Phenol-d6	35.1	5 - 116		%Rec	1		5/2020 3:12:40 PM	
Surr: p-Terphenyl	102	51.7 - 162		%Rec	1		5/2020 3:12:40 PM	
Gasoline by NWTPH-Gx				Bato	h ID:	29684	Analyst: KT	
Gasoline	3,040	500	D	μg/L	10	9/16	6/2020 4:21:17 PM	
Surr: Toluene-d8	101	65 - 135	D	%Rec	10	9/16	6/2020 4:21:17 PM	
Surr: 4-Bromofluorobenzene	101	65 - 135	D	%Rec	10	9/16	6/2020 4:21:17 PM	
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID:	29703	Analyst: TN	
Fluoride	1.60	0.400	D	mg/L	4	9/16	6/2020 12:35:00 PM	
Chloride	73.6	5.00	D	mg/L	50	9/15	5/2020 7:50:00 PM	
Nitrite (as N)	ND	0.400	DH	mg/L	4	9/16	6/2020 12:35:00 PM	
Bromide	2.28	1.60	D	mg/L	4	9/16	6/2020 12:35:00 PM	
Nitrate (as N)	ND	0.400	DH	mg/L	4	9/16	3/2020 12:35:00 PM	
Ortho-Phosphate (as P)	ND	0.800	DH	mg/L	4	9/16	6/2020 12:35:00 PM	
Sulfate	ND	1.20	D	mg/L	4	9/16	6/2020 12:35:00 PM	
NOTES:				•				
Diluted due to matrix.								
Dissolved Metals by EPA Metho	od 200.8			Bato	h ID:	29708	Analyst: CO	
Arsenic	1,740	0.500		μg/L	1	9/17	7/2020 10:17:16 PM	
	33,200	100		μg/L				



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 2:58:00 PM

Project: MILL E

Lab ID: 2009193-011 Matrix: Groundwater

Client Sample ID: PZ-1A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Metho	od 200.8			Bato	ch ID: 29	708 Analyst: CO
Manganese	2,000	2.00		μg/L	1	9/17/2020 10:17:16 PM
Total Metals by EPA Method 20	0.8			Bato	h ID: 29	688 Analyst: CO
Arsenic	1,820	1.00		μg/L	1	9/18/2020 4:30:02 AM
Calcium	71,800	2,000	D	μg/L	10	9/22/2020 1:51:57 PM
Magnesium	33,100	1,000	D	μg/L	10	9/22/2020 1:51:57 PM
Potassium	18,800	2,000	D	μg/L	10	9/22/2020 1:51:57 PM
Sodium	152,000	2,000	D	μg/L	10	9/22/2020 1:51:57 PM
Dissolved Organic Carbon by S	M 5310C			Bato	h ID: R6	2123 Analyst: SS
Organic Carbon, Dissolved	25.1	0.500		mg/L	1	9/25/2020 4:01:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	h ID: R6	1980 Analyst: SS
Total Organic Carbon	27.0	0.500		mg/L	1	9/16/2020 5:52:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	2122 Analyst: WF
Alkalinity, Total (As CaCO3)	588	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	1956 Analyst: SS
Sulfide	3.20	0.500		mg/L	1	9/18/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 3:25:00 PM

Project: MILL E

Lab ID: 2009193-012 Matrix: Groundwater

Client Sample ID: LLMW-18S-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Me	thod 300.0			Batc	h ID: 297	703 Analyst: TN
Fluoride	ND	2.00	D	mg/L	20	9/16/2020 1:21:00 PM
Chloride	380	20.0	D	mg/L	200	9/16/2020 12:58:00 PM
Nitrite (as N)	ND	2.00	DH	mg/L	20	9/16/2020 1:21:00 PM
Bromide	ND	8.00	D	mg/L	20	9/16/2020 1:21:00 PM
Nitrate (as N)	3.62	2.00	DH	mg/L	20	9/16/2020 1:21:00 PM
Ortho-Phosphate (as P)	ND	4.00	DH	mg/L	20	9/16/2020 1:21:00 PM
Sulfate	ND	6.00	D	mg/L	20	9/16/2020 1:21:00 PM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Metho	d 200.8			Batc	h ID: 297	708 Analyst: CO
Arsenic	58.1	0.500		μg/L	1	9/17/2020 10:22:49 PM
Iron	131,000	1,000	D	μg/L	10	9/21/2020 1:53:21 PM
Manganese	1,990	2.00		μg/L	1	9/17/2020 10:22:49 PM
Total Metals by EPA Method 20	0.8			Batc	h ID: 296	Analyst: CO
Arsenic	61.9	1.00		μg/L	1	9/18/2020 4:35:36 AM
Calcium	98,200	2,000	D	μg/L	10	9/22/2020 1:57:31 PM
Magnesium	85,300	1,000	D	μg/L	10	9/22/2020 1:57:31 PM
Potassium	17,800	2,000	D	μg/L	10	9/22/2020 1:57:31 PM
Sodium	98,700	2,000	D	μg/L	10	9/22/2020 1:57:31 PM
Dissolved Organic Carbon by SI	<u> </u>			Batc	h ID: R6	2123 Analyst: SS
Organic Carbon, Dissolved	17.9	0.500		mg/L	1	9/25/2020 4:21:00 AM
Total Organic Carbon by SM 531	<u>10C</u>			Batc	h ID: R6	1980 Analyst: SS
Total Organic Carbon	19.6	0.500		mg/L	1	9/16/2020 6:15:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R6	2122 Analyst: WF
Alkalinity, Total (As CaCO3)	299	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1956 Analyst: SS
Sulfide	1.60	0.500		mg/L	1	9/18/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 3:05:00 PM

Project: MILL E

Lab ID: 2009193-013 Matrix: Groundwater

Client Sample ID: PZ-99A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH	-Dx/Dx Ext.			Batc	h ID: 29	9667 Analyst: DW
Diesel (Fuel Oil)	ND	49.7		μg/L	1	9/15/2020 7:55:23 PM
Diesel Range Organics (C12-C24)	110	49.7		μg/L	1	9/15/2020 7:55:23 PM
Heavy Oil	1,530	99.4		μg/L	1	9/15/2020 7:55:23 PM
Surr: 2-Fluorobiphenyl	80.4	50 - 150		%Rec	1	9/15/2020 7:55:23 PM
Surr: o-Terphenyl	81.0	50 - 150		%Rec	1	9/15/2020 7:55:23 PM
NOTES:						

Semivolatile Organic Compounds	by EPA Me	thod 8270	Batch	n ID:	29698	Analyst: SB
Pentachlorophenol	ND	1.98	μg/L	1	9/25/2	020 3:35:04 PM
Surr: 2,4,6-Tribromophenol	94.4	24.7 - 176	%Rec	1	9/25/2	020 3:35:04 PM
Surr: 2-Fluorobiphenyl	93.8	54.8 - 148	%Rec	1	9/25/2	020 3:35:04 PM
Surr: Nitrobenzene-d5	92.8	40.8 - 151	%Rec	1	9/25/2	020 3:35:04 PM
Surr: Phenol-d6	28.6	5 - 116	%Rec	1	9/25/2	020 3:35:04 PM
Surr: p-Terphenyl	99.1	51.7 - 162	%Rec	1	9/25/2	020 3:35:04 PM
Gasoline by NWTPH-Gx			Batcl	n ID:	29684	Analyst: KT
Gasoline	ND	50.0	μg/L	1	9/16/2	020 3:20:49 PM
Gasoline Range Organics (C6-C12)	957	50.0	μg/L	1	9/16/2	020 3:20:49 PM
Surr: Toluene-d8	99.9	65 - 135	%Rec	1	9/16/2	020 3:20:49 PM
Surr: 4-Bromofluorobenzene	100	65 - 135	%Rec	1	9/16/2	020 3:20:49 PM
NOTES:						

#### NOTES

GRO - Indicates the presence of unresolved compounds eluting from hexane to dodecane (~C6-C12). Detection is due to two large single peaks and pattern that does resemble gasoline.

Ion Chromatography by EPA	Method 300.0			Batc	h ID: 29	703 Analyst: TN
Fluoride	5.50	5.00	D	mg/L	50	9/15/2020 10:32:00 PM
Chloride	31.6	5.00	D	mg/L	50	9/15/2020 10:32:00 PM
Nitrite (as N)	ND	0.200	DH	mg/L	2	9/16/2020 1:44:00 PM
Bromide	ND	0.800	D	mg/L	2	9/16/2020 1:44:00 PM
Nitrate (as N)	0.244	0.200	DH	mg/L	2	9/16/2020 1:44:00 PM
Ortho-Phosphate (as P)	ND	0.400	DH	mg/L	2	9/16/2020 1:44:00 PM
Sulfate	0.822	0.600	D	mg/L	2	9/16/2020 1:44:00 PM
NOTES:						

Diluted due to matrix.



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 3:05:00 PM

Project: MILL E

Lab ID: 2009193-013 Matrix: Groundwater

Client Sample ID: PZ-99A-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method	1 200.8			Bato	h ID: 29	708 Analyst: CO
Arsenic	624	0.500		μg/L	1	9/17/2020 10:28:23 PM
Iron	49,600	1,000	D	μg/L	10	9/21/2020 2:10:32 PM
Manganese	1,370	2.00	_	μg/L	1	9/17/2020 10:28:23 PM
Total Metals by EPA Method 200	0.8			Bato	h ID: 29	688 Analyst: CO
Arsenic	702	1.00		μg/L	1	9/18/2020 4:41:10 AM
Calcium	44,900	2,000	D	μg/L	10	9/22/2020 2:03:04 PM
Magnesium	16,800	1,000	D	μg/L	10	9/22/2020 2:03:04 PM
Potassium	8,970	2,000	D	μg/L	10	9/22/2020 2:03:04 PM
Sodium	47,700	2,000	D	μg/L	10	9/22/2020 2:03:04 PM
Dissolved Organic Carbon by SM	1 5310C			Bato	h ID: R6	S2123 Analyst: SS
Organic Carbon, Dissolved	13.1	0.500		mg/L	1	9/25/2020 4:44:00 AM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	S1980 Analyst: SS
Total Organic Carbon	13.8	0.500		mg/L	1	9/16/2020 6:48:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	S2122 Analyst: WF
Alkalinity, Total (As CaCO3)	279	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	S1956 Analyst: SS
Sulfide	1.00	0.500		mg/L	1	9/18/2020 11:15:00 AM



Work Order: **2009193**Date Reported: **4/9/2021** 

Client: Floyd | Snider Collection Date: 9/11/2020 10:35:00 AM

Project: MILL E

Lab ID: 2009193-015 Matrix: Groundwater

Client Sample ID: MW-08D-091120

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Me	ethod 300.0			Batc	h ID: 29	703 Analyst: TN
Fluoride	ND	0.500	D	mg/L	5	9/16/2020 3:39:00 PM
Chloride	102	5.00	D	mg/L	50	9/16/2020 12:04:00 AM
Nitrite (as N)	ND	0.500	DH	mg/L	5	9/16/2020 3:39:00 PM
Bromide	ND	2.00	D	mg/L	5	9/16/2020 3:39:00 PM
Nitrate (as N)	ND	0.500	DH	mg/L	5	9/16/2020 3:39:00 PM
Ortho-Phosphate (as P)	ND	1.00	DH	mg/L	5	9/16/2020 3:39:00 PM
Sulfate	1.58	1.50	D	mg/L	5	9/16/2020 3:39:00 PM
<b>NOTES:</b> Diluted due to matrix.						
Dissolved Metals by EPA Metho	od 200.8			Batc	h ID: 29	708 Analyst: CO
Arsenic	ND	0.500		μg/L	1	9/21/2020 2:16:06 PM
Iron	3,270	100		μg/L	1	9/21/2020 2:16:06 PM
Manganese	115	2.00		μg/L	1	9/17/2020 10:45:06 PM
Total Metals by EPA Method 20	0.8			Batc	h ID: 29	688 Analyst: CO
Arsenic	1.85	1.00		μg/L	1	9/18/2020 4:46:44 AM
Calcium	19,200	2,000	D	μg/L	10	9/22/2020 2:08:38 PM
Magnesium	38,900	1,000	D	μg/L	10	9/22/2020 2:08:38 PM
Potassium	11,400	2,000	D	μg/L	10	9/22/2020 2:08:38 PM
Sodium	118,000	2,000	D	μg/L	10	9/22/2020 2:08:38 PM
Dissolved Organic Carbon by S	M 5310C			Batc	h ID: R6	2123 Analyst: SS
Organic Carbon, Dissolved	9.69	0.500		mg/L	1	9/25/2020 5:06:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Batc	h ID: R6	1980 Analyst: SS
Total Organic Carbon	10.5	0.500		mg/L	1	9/16/2020 7:57:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R6	2122 Analyst: WF
Alkalinity, Total (As CaCO3)	387	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Batc	h ID: R6	1956 Analyst: SS
Sulfide	0.600	0.500		mg/L	1	9/18/2020 11:15:00 AM





**Work Order:** 2009193

**CLIENT:** Floyd | Snider

Project: MILL E

### **QC SUMMARY REPORT**

**Total Alkalinity by SM 2320B** 

i roject.						
Sample ID: MB-R62101	SampType: MBLK			Units: mg/L	Prep Date: 9/24/2020	RunNo: <b>62101</b>
Client ID: MBLKW	Batch ID: <b>R62101</b>				Analysis Date: 9/24/2020	SeqNo: <b>1245834</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	ND	2.50				
Sample ID: LCS-R62101	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 9/24/2020	RunNo: <b>62101</b>
Client ID: LCSW	Batch ID: R62101				Analysis Date: 9/24/2020	SeqNo: <b>1245835</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	100	2.50	100.0	0	100 99.6 108	
Sample ID: <b>2009193-001ADUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 9/24/2020	RunNo: <b>62101</b>
Client ID: MW-06D-091120	Batch ID: <b>R62101</b>				Analysis Date: 9/24/2020	SeqNo: <b>1245837</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	348	2.50			347.9	0 20
Sample ID: MB-R62122	SampType: MBLK			Units: mg/L	Prep Date: <b>9/25/2020</b>	RunNo: <b>62122</b>
Client ID: MBLKW	Batch ID: <b>R62122</b>				Analysis Date: 9/25/2020	SeqNo: <b>1246203</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	ND	2.50				
Sample ID: LCS-R62122	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 9/25/2020	RunNo: <b>62122</b>
Client ID: LCSW	Batch ID: R62122				Analysis Date: 9/25/2020	SeqNo: <b>1246204</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	100	2.50	100.0	0	100 99.6 108	

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Date: 4/9/2021



MILL E

Work Order: 2009193

Project:

Analyte

**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider

**Total Alkalinity by SM 2320B** 

%RPD RPDLimit Qual

Sample ID: 2009193-007ADUP SampType: **DUP** Units: mg/L

RL

Result

Prep Date: 9/25/2020 RunNo: **62122** 

%REC LowLimit HighLimit RPD Ref Val

Client ID: **PZ-2D-091120** Batch ID: **R62122** Analysis Date: 9/25/2020 SeqNo: 1246206 SPK value SPK Ref Val

Alkalinity, Total (As CaCO3) 421 2.50 426.3 1.16 20

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**Work Order:** 2009193

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Dissolved Organic Carbon by SM 5310C

Project: MILL E						DISSOIV	ed Orga	anic Carbo	on by Sivi	5310C
Sample ID: MB-R62123	SampType: MBLK			Units: mg/L		Prep Date: 9/24/2020		RunNo: 621	123	
Client ID: MBLKW	Batch ID: <b>R62123</b>					Analysis Date: 9/24/2020		SeqNo: 124	46218	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	ND	0.500								
Sample ID: LCS-R62123	SampType: <b>LCS</b>			Units: mg/L		Prep Date: 9/24/2020		RunNo: <b>62</b> 1	123	
Client ID: LCSW	Batch ID: <b>R62123</b>					Analysis Date: 9/24/2020		SeqNo: 124	46219	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	5.00	0.500	5.000	0	99.9	94.4 109				
Sample ID: 2009193-003DDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Date: 9/24/2020		RunNo: <b>62</b> 1	123	
Client ID: <b>PZ-2A-091120</b>	Batch ID: <b>R62123</b>					Analysis Date: 9/24/2020		SeqNo: <b>12</b> 4	46223	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	7.28	0.500					7.262	0.289	20	
Sample ID: <b>2009193-003DMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date: 9/24/2020		RunNo: <b>62</b> 1	123	
Client ID: <b>PZ-2A-091120</b>	Batch ID: <b>R62123</b>					Analysis Date: 9/24/2020		SeqNo: 124	46224	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	12.0	0.500	5.000	7.262	94.9	80.9 124				
Sample ID: <b>2009193-003DMSD</b>	SampType: <b>MSD</b>			Units: mg/L		Prep Date: 9/24/2020		RunNo: <b>62</b> 1	123	
Client ID: <b>PZ-2A-091120</b>	Batch ID: R62123					Analysis Date: 9/24/2020		SeqNo: <b>12</b> 4	46225	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	11.8	0.500	5.000	7.262	91.2	80.9 124	12.01	1.55	30	

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MILL E

**Work Order:** 2009193

Project:

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Dissolved Organic Carbon by SM 5310C

Client ID: BATCH Batch ID: R62123 Analysis Date: 9/25/2020 SeqNo: 1246244

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Organic Carbon, Dissolved 10.5 0.500 10.75 2.02 20

Client ID: **BATCH** Batch ID: **R62123** Analysis Date: **9/25/2020** SeqNo: **1246245** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Organic Carbon, Dissolved 15.5 0.500 5.000 10.75 95.8 80.9 124

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# **QC SUMMARY REPORT**

#### **CLIENT:** Floyd | Snider

# Ion Chromatography by EPA Method 300.0

Project: MILL E					Ion Chromatography by EPA Method 300.0
Sample ID: <b>MB-29675</b>	SampType: <b>MBLK</b>			Units: mg/L	Prep Date: 9/11/2020 RunNo: 61865
Client ID: MBLKW	Batch ID: 29675				Analysis Date: 9/11/2020 SeqNo: 1240694
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	ND	0.100			
Nitrite (as N)	ND	0.100			
Nitrate (as N)	ND	0.100			
Ortho-Phosphate (as P)	ND	0.200			
Sulfate	ND	0.300			

Sample ID: LCS-29675	SampType: <b>LCS</b>			Units: mg/L		Prep Dat	te: <b>9/11/20</b>	20	RunNo: 618	365	
Client ID: LCSW	Batch ID: 29675					Analysis Da	te: <b>9/11/20</b>	20	SeqNo: <b>124</b>	10695	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.474	0.100	0.5000	0	94.8	90	110				
Nitrite (as N)	0.719	0.100	0.7500	0	95.9	90	110				
Nitrate (as N)	0.703	0.100	0.7500	0	93.7	90	110				
Ortho-Phosphate (as P)	1.22	0.200	1.250	0	97.8	90	110				
Sulfate	3.66	0.300	3.750	0	97.6	90	110				

Sample ID: 2009179-001ADUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date: 9/11/2020	RunNo: <b>61865</b>
Client ID: BATCH	Batch ID: 29675			Analysis Date: 9/11/2020	SeqNo: <b>1240697</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Va	MRPD RPDLimit Qual
Fluoride	1.81	1.00		1.870	3.26 20 D
Nitrite (as N)	ND	1.00		C	20 D
Nitrate (as N)	ND	1.00		C	20 D
Ortho-Phosphate (as P)	ND	2.00		C	20 D
Sulfate	107	3.00		110.2	2.70 20 D

NOTES:

Diluted due to matrix.

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: MILL E Ion Chromatography by EPA Method 300.0

Sample ID: 2009179-001AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/11/20</b>	)20	RunNo: 618	365	
Client ID: BATCH	Batch ID: 29675					Analysis Da	te: <b>9/11/20</b>	)20	SeqNo: 124	10698	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.55	1.00	5.000	1.870	93.6	80	120				D
Nitrite (as N)	5.76	1.00	7.500	0	76.8	80	120				DS
Nitrate (as N)	8.15	1.00	7.500	0	109	80	120				D
Ortho-Phosphate (as P)	ND	2.00	12.50	0	0	80	120				DS
Sulfate	147	3.00	37.50	110.2	99.1	80	120				D

### NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect. Diluted due to matrix.

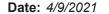
Sample ID: 2009179-001AMSD	SampType: <b>MSD</b>			Units: mg/L		Prep Da	te: <b>9/11/20</b>	20	RunNo: 618	365	
Client ID: BATCH	Batch ID: 29675					Analysis Da	te: <b>9/11/20</b>	20	SeqNo: <b>12</b> 4	40699	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.55	1.00	5.000	1.870	93.6	80	120	6.550	0	20	D
Nitrite (as N)	5.75	1.00	7.500	0	76.7	80	120	5.760	0.174	20	DS
Nitrate (as N)	8.19	1.00	7.500	0	109	80	120	8.150	0.490	20	D
Ortho-Phosphate (as P)	7.91	2.00	12.50	0	63.3	80	120	0	200	20	DS
Sulfate	148	3.00	37.50	110.2	101	80	120	147.4	0.440	20	D

#### NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect. Diluted due to matrix.

Sample ID: 2009193-005ADUP	SampType: <b>DUP</b>		Units:	mg/L	Prep Da	te: <b>9/11/2</b> 0	)20	RunNo: 618	865	
Client ID: MW-108S-091120	Batch ID: 29675				Analysis Da	te: <b>9/12/2</b> 0	)20	SeqNo: <b>12</b> 4	10723	
Analyte	Result	RL	SPK value SPK Ref Va	al %REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.15	0.200					1.158	1.04	20	D
Nitrite (as N)	ND	0.200					0		20	D
Nitrate (as N)	ND	0.200					0		20	D
Ortho-Phosphate (as P)	ND	0.400					0		20	D
Sulfate	10.7	0.600					10.83	1.00	20	D

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Floyd | Snider

MILL E

Work Order: 2009193

### **QC SUMMARY REPORT**

# Ion Chromatography by EPA Method 300.0

Sample ID: 2009193-005ADUP SampType: DUP Units: mg/L Prep Date: 9/11/2020 RunNo: 61865

Client ID: MW-108S-091120 Batch ID: 29675 Analysis Date: 9/12/2020 SeqNo: 1240723

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

### NOTES:

CLIENT:

Project:

Diluted due to matrix.

Sample ID: 2009193-005AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/11/20</b>	20	RunNo: 618	365	
Client ID: MW-108S-091120	Batch ID: 29675					Analysis Da	te: <b>9/12/20</b>	20	SeqNo: <b>12</b> 4	10724	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.16	0.200	1.000	1.158	99.8	80	120				D
Nitrite (as N)	0.478	0.200	1.500	0	31.9	80	120				DS
Nitrate (as N)	1.64	0.200	1.500	0	109	80	120				D
Ortho-Phosphate (as P)	ND	0.400	2.500	0	15.7	80	120				DS
Sulfate	18.7	0.600	7.500	10.83	105	80	120				D

#### NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID: MB-29703	SampType: <b>MBLK</b>			Units: mg/L		Prep Da	te: <b>9/15/2</b> 0	)20	RunNo: 618	368	
Client ID: MBLKW	Batch ID: 29703					Analysis Da	te: <b>9/15/2</b> 0	)20	SeqNo: 124	<b>11171</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.100									
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Bromide	ND	0.400									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.200									
Sulfate	ND	0.300									

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# **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Ion Chromatography by EPA Method 300.

Project: MILL E							lon Ch	romatogra	ohy by EP	A Method	300
Sample ID: LCS-29703	SampType: <b>LCS</b>			Units: mg/L		Prep Da	te: <b>9/15/20</b>	20	RunNo: 618	368	
Client ID: LCSW	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	11172	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.503	0.100	0.5000	0	101	90	110				
Chloride	0.748	0.100	0.7500	0	99.7	90	110				
Nitrite (as N)	0.753	0.100	0.7500	0	100	90	110				
Bromide	2.48	0.400	2.500	0	99.2	90	110				
Nitrate (as N)	0.746	0.100	0.7500	0	99.5	90	110				
Ortho-Phosphate (as P)	1.35	0.200	1.250	0	108	90	110				
Sulfate	3.73	0.300	3.750	0	99.4	90	110				
Sample ID: <b>2009193-011ADUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>9/15/20</b>	120	RunNo: 618	368	
Client ID: <b>PZ-1A-091120</b>	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	11178	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Fluoride	ND	5.00						0		20	D
Chloride	73.8	5.00						73.60	0.204	20	D
Nitrite (as N)	ND	5.00						0		20	DH
Bromide	ND	20.0						0		20	D
Nitrate (as N)	ND	5.00						0		20	DH
Ortho-Phosphate (as P)	ND	10.0						0		20	DH
Sulfate	ND	15.0						0		20	D
Sample ID: <b>2009193-011AMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/15/20</b>	20	RunNo: 618	368	
Client ID: <b>PZ-1A-091120</b>	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	1179	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Fluoride	24.4	5.00	25.00	3.100	85.2	80	120				D
Chloride	110	5.00	37.50	73.60	96.7	80	120				D
Nitrite (as N)	34.8	5.00	37.50	0	92.7	80	120				DH
Bromide	116	20.0	125.0	14.25	81.1	80	120				D
Nitrate (as N)	34.2	5.00	37.50	0	91.1	80	120				DH

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MILL E

Work Order: 2009193

# **QC SUMMARY REPORT**

### **CLIENT:** Floyd | Snider

### Ion Chromatography by EPA Method 300.0

Sample ID: 2009193-011AMS	SampType: MS			Units: mg/L		Prep Da	te: <b>9/15/20</b>	20	RunNo: 618	368	
Client ID: <b>PZ-1A-091120</b>	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: 124	11179	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ortho-Phosphate (as P) Sulfate	48.5 171	10.0 15.0	62.50 187.5	0	77.6 91.3	80 80	120 120				DSH D

### NOTES:

Project:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID: 2009193-011AMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>9/15/20</b>	)20	RunNo: 618	168	
Client ID: <b>PZ-1A-091120</b>	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	)20	SeqNo: <b>12</b> 4	1180	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	24.6	5.00	25.00	3.100	86.0	80	120	24.40	0.816	20	D
Chloride	111	5.00	37.50	73.60	98.7	80	120	109.8	0.680	20	D
Nitrite (as N)	35.0	5.00	37.50	0	93.5	80	120	34.75	0.860	20	DH
Bromide	116	20.0	125.0	14.25	81.5	80	120	115.6	0.431	20	D
Nitrate (as N)	34.4	5.00	37.50	0	91.6	80	120	34.15	0.584	20	DH
Ortho-Phosphate (as P)	56.8	10.0	62.50	0	90.9	80	120	48.50	15.8	20	DH
Sulfate	174	15.0	187.5	0	92.7	80	120	171.2	1.54	20	D

Sample ID: 2009179-011ADUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date: 9/15/2020	RunNo: <b>61868</b>
Client ID: BATCH	Batch ID: 29703			Analysis Date: 9/16/2020	SeqNo: <b>1241218</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Fluoride	ND	5.00		0	20 D
Chloride	77.7	5.00		77.10	0.711 20 D
Nitrite (as N)	ND	5.00		0	20 DH
Bromide	ND	20.0		0	20 D
Nitrate (as N)	ND	5.00		0	20 DH
Ortho-Phosphate (as P)	ND	10.0		0	20 DH
Sulfate	15.3	15.0		15.35	0.326 20 D

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MILL E

Work Order: 2009193

# **QC SUMMARY REPORT**

# **CLIENT:** Floyd | Snider

### Ion Chromatography by EPA Method 300.0

Sample ID: 2009179-011AMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/15/20</b>	20	RunNo: 618	368	
Client ID: BATCH	Batch ID: 29703					Analysis Da	te: <b>9/16/20</b>	20	SeqNo: 124	11219	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	20.4	5.00	25.00	2.050	73.6	80	120				DS
Chloride	107	5.00	37.50	77.10	78.7	80	120				DS
Nitrite (as N)	30.2	5.00	37.50	0	80.7	80	120				DH
Bromide	100	20.0	125.0	0	80.1	80	120				D
Nitrate (as N)	29.5	5.00	37.50	0	78.7	80	120				DSH
Ortho-Phosphate (as P)	55.2	10.0	62.50	0	88.3	80	120				DH
Sulfate	144	15.0	187.5	15.35	68.9	80	120				DS

### NOTES:

Project:

S - Outlying spike recovery(ies) observed.

Sample ID: 2009179-011AMSD	SampType: MSD			Units: mg/L		Prep Dat	te: <b>9/15/2</b> 0	20	RunNo: 618	368	
Client ID: BATCH	Batch ID: 29703					Analysis Dat	te: <b>9/16/2</b> 0	20	SeqNo: <b>12</b> 4	11220	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	22.0	5.00	25.00	2.050	79.8	80	120	20.45	7.30	20	DS
Chloride	112	5.00	37.50	77.10	93.6	80	120	106.6	5.12	20	D
Nitrite (as N)	33.4	5.00	37.50	0	89.1	80	120	30.25	9.90	20	DH
Bromide	110	20.0	125.0	0	87.8	80	120	100.1	9.20	20	D
Nitrate (as N)	32.5	5.00	37.50	0	86.7	80	120	29.50	9.68	20	DH
Ortho-Phosphate (as P)	62.4	10.0	62.50	0	99.9	80	120	55.20	12.3	20	DH
Sulfate	159	15.0	187.5	15.35	76.8	80	120	144.4	9.78	20	DS

### NOTES:

S - Outlying spike recovery(ies) observed.

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Project: MILL E								Sulfide by SM 4	500-S2-F
Sample ID: MB-R61944	SampType: <b>MBLK</b>			Units: mg/L		Prep Da	ate: 9/17/2020	RunNo: <b>61944</b>	
Client ID: MBLKW	Batch ID: R61944					Analysis Da	ate: 9/17/2020	SeqNo: <b>1242349</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLim	it Qual
Sulfide	ND	0.500							
Sample ID: LCS-R61944	SampType: <b>LCS</b>			Units: mg/L		Prep Da	ate: 9/17/2020	RunNo: <b>61944</b>	
Client ID: LCSW	Batch ID: R61944					Analysis Da	ate: 9/17/2020	SeqNo: <b>1242350</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLim	it Qual
Sulfide	1.80	0.500	2.000	0	90.0	74.9	118		
Sample ID: <b>2009193-001FDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Da	ate: 9/17/2020	RunNo: <b>61944</b>	
Client ID: MW-06D-091120	Batch ID: R61944					Analysis Da	ate: 9/17/2020	SeqNo: <b>1242378</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLim	it Qual
Sulfide	1.00	0.500					0.800	00 22.2 ;	30
Sample ID: <b>2009230-001DMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Da	ate: 9/17/2020	RunNo: <b>61944</b>	
Client ID: BATCH	Batch ID: <b>R61944</b>					Analysis Da	ate: 9/17/2020	SeqNo: <b>1242384</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLim	it Qual
Sulfide	2.20	0.500	2.000	0	110	74.9	118		
Sample ID: <b>2009230-002DDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Da	ate: 9/17/2020	RunNo: <b>61944</b>	
Client ID: BATCH	Batch ID: R61944					Analysis Da	ate: 9/17/2020	SeqNo: <b>1242386</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	al %RPD RPDLim	it Qual
Sulfide	ND	0.500						0 ;	30

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**CLIENT:** Floyd | Snider

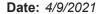
Project: MILL E

# **QC SUMMARY REPORT**

Sulfide by SM 4500-S2-F

Project: MILL E					
Sample ID: 2009230-002DMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 9/17/2020 RunNo: 61944
Client ID: BATCH	Batch ID: <b>R61944</b>				Analysis Date: 9/17/2020 SeqNo: 1242387
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfide	1.60	0.500	2.000	0	80.0 74.9 118
Sample ID: 2009230-002DMSD	SampType: <b>MSD</b>			Units: mg/L	Prep Date: 9/17/2020 RunNo: 61944
Client ID: BATCH	Batch ID: <b>R61944</b>				Analysis Date: 9/17/2020 SeqNo: 1242388
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfide	2.00	0.500	2.000	0	100 74.9 118 1.600 22.2 30
Sample ID: MB-R61956	SampType: <b>MBLK</b>			Units: mg/L	Prep Date: 9/18/2020 RunNo: 61956
Client ID: MBLKW	Batch ID: R61956				Analysis Date: 9/18/2020 SeqNo: 1242571
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfide	ND	0.500			
Sample ID: LCS-R61956	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 9/18/2020 RunNo: 61956
Client ID: LCSW	Batch ID: R61956				Analysis Date: 9/18/2020 SeqNo: 1242572
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfide	1.60	0.500	2.000	0	80.0 74.9 118
Sample ID: <b>2009193-006FDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 9/18/2020 RunNo: 61956
Client ID: MW-09D-091120	Batch ID: <b>R61956</b>				Analysis Date: 9/18/2020 SeqNo: 1242574
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Sulfide	0.600	0.500			0.8000 28.6 30

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MILL E

Work Order: 2009193

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Sample ID: 2009198-001FDUP SampType: DUP	Units: mg/L	Prep Date: 9/18/2020	RunNo: <b>61956</b>
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Client ID: **BATCH** Batch ID: **R61956** Analysis Date: **9/18/2020** SeqNo: **1242584** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Sulfide ND 0.500 50.500 50.6000 40.0 30

Sample ID: 2009198-001FMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/18/20</b> 2	20	RunNo: 619	956	
Client ID: BATCH	Batch ID: <b>R61956</b>					Analysis Da	te: <b>9/18/20</b> 2	20	SeqNo: 124	12585	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	3.20	0.500	2.000	0.6000	130	74.9	118				S

#### NOTES:

Project:

S - Outlying spike recovery(ies) observed.

Sample ID: 2009198-001FMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>9/18/2</b> 0	)20	RunNo: 619	)56	
Client ID: BATCH	Batch ID: <b>R61956</b>					Analysis Da	te: <b>9/18/20</b>	)20	SeqNo: <b>124</b>	12586	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	2.00	0.500	2.000	0.6000	70.0	74.9	118	3.200	46.2	30	SR

### NOTES:

SR - Outlying spike recovery(ies) and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Sample ID: 2009226-001FMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: 9/18/2020	RunNo: 619	56	
Client ID: BATCH	Batch ID: <b>R61956</b>					Analysis Da	te: 9/18/2020	SeqNo: <b>124</b>	2589	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	6.00	0.500	2.000	0.4000	280	74.9	118			S

#### NOTES:

S - Outlying spike recovery(ies) observed.

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project: MILL E						Total Orga	anic Carbon by SM 5310C
Sample ID: MB-R61980	SampType: MBLK			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>
Client ID: MBLKW	Batch ID: R61980					Analysis Date: 9/15/2020	SeqNo: <b>1243162</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	ND	0.500					
Sample ID: LCS-R61980	SampType: LCS			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>
Client ID: LCSW	Batch ID: R61980					Analysis Date: 9/15/2020	SeqNo: <b>1243163</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	5.30	0.500	5.000	0	106	90 118	
Sample ID: 2009179-011EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>
Client ID: BATCH	Batch ID: R61980					Analysis Date: 9/15/2020	SeqNo: <b>1243165</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	10.8	0.500				10.66	1.58 20
Sample ID: 2009179-011EMS	SampType: <b>MS</b>			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>
Client ID: BATCH	Batch ID: R61980					Analysis Date: 9/15/2020	SeqNo: <b>1243166</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	15.5	0.500	5.000	10.66	96.3	80.9 124	
Sample ID: 2009179-011EMSD	SampType: MSD			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>
Client ID: BATCH	Batch ID: R61980					Analysis Date: 9/15/2020	SeqNo: <b>1243167</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Total Organic Carbon	15.1	0.500	5.000	10.66	88.5	80.9 124 15.47	2.54 30

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**Work Order:** 2009193

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project: MILL E Sample ID: 2009193-003EDUP SampType: **DUP** Units: mg/L Prep Date: 9/16/2020 RunNo: 61980 Client ID: **PZ-2A-091120** Batch ID: **R61980** Analysis Date: 9/16/2020 SeqNo: 1243173 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual **Total Organic Carbon** 20 7.84 0.500 7.948 1.36 SampType: MS Units: mg/L Prep Date: 9/16/2020 RunNo: 61980

Sample ID: 2009193-003EMS Client ID: **PZ-2A-091120** Batch ID: R61980 Analysis Date: 9/16/2020 SeqNo: 1243174 SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result RL %REC Qual **Total Organic Carbon** 12.6 0.500 5.000 7.948 93.9 80.9 124

Sample ID: 2009193-003EMSD	SampType: MSD			Units: mg/L		Prep Dat	te: <b>9/16/20</b>	20	RunNo: <b>619</b>	080	
Client ID: <b>PZ-2A-091120</b>	Batch ID: <b>R61980</b>					Analysis Da	te: <b>9/16/20</b>	20	SeqNo: <b>124</b>	3175	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	12.5	0.500	5.000	7.948	91.2	80.9	124	12.64	1.10	30	

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ND

ND

100

2.00

**Work Order:** 2009193

Manganese

# **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: MILL F

### Dissolved Metals by EPA Method 200.8

Project: MILL E					
Sample ID: MB-29708	SampType: MBLK		Units: µg/L	Prep Date: 9/17/2020	RunNo: <b>61935</b>
Client ID: MBLKW	Batch ID: 29708			Analysis Date: 9/17/2020	SeqNo: <b>1242140</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Arsenic	ND	0.500			

Sample ID: LCS-29708	SampType: <b>LCS</b>	Units: µg/L	Prep Date:	9/17/2020	RunNo: <b>61935</b>
Olivert ID. I COM	D-4-1-1D 00700		A I i D - t	014710000	0 10 - 40 40 444

Client ID: LCSW	Batch ID: 29708					Analysis Da	te: <b>9/17/20</b>	20	SeqNo: 124	12141	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.3	0.500	100.0	0	94.3	85	115				
Iron	1,050	100	1,000	0	105	50	150				
Manganese	98.4	2.00	100.0	0	98.4	85	115				

Sample ID: 2009193-003CDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Da	te: <b>9/17/20</b>	20	RunNo: 619	35	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29708					Analysis Da	te: <b>9/17/20</b>	20	SeqNo: <b>12</b> 4	12143	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	262	0.500						262.4	0.0303	30	
Iron	31,700	100						32,030	1.15	30	
Manganese	1,300	2.00						1,313	1.32	30	

Sample ID: 2009193-003CMS	SampType: <b>MS</b>			Units: µg/L		Prep Da	te: <b>9/17/20</b>	20	RunNo: 619	35	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29708					Analysis Da	te: <b>9/17/20</b>	20	SeqNo: <b>12</b> 4	2144	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	786	0.500	500.0	262.4	105	70	130				
Iron	36,000	100	5,000	32,030	79.3	50	150				
Manganese	1,890	2.00	500.0	1,313	115	70	130				

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MILL E

Work Order: 2009193

# **QC SUMMARY REPORT**

%RPD RPDLimit

Qual

### **CLIENT:** Floyd | Snider

### **Dissolved Metals by EPA Method 200.8**

Sample ID: 2009193-003CMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Date	9/17/202	0	RunNo: 619	935	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29708					Analysis Date	9/17/202	0	SeqNo: 124	12145	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	773	0.500	500.0	262.4	102	70	130	786.4	1.67	30	
Iron	35,900	100	5,000	32,030	77.9	50	150	36,000	0.193	30	
Manganese	1,830	2.00	500.0	1,313	103	70	130	1,890	3.44	30	
Sample ID: MB-29709FB	SampType: <b>MBLK</b>			Units: µg/L		Prep Date	9/17/202	0	RunNo: 619	935	
Client ID: MBLKW	Batch ID: 29708					Analysis Date	9/17/202	0	SeqNo: 124	12164	

%REC LowLimit HighLimit RPD Ref Val

SPK value SPK Ref Val

 Iron
 ND
 100

 Manganese
 ND
 2.00

### NOTES:

Analyte

**Project:** 

Result

RL

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I - Indicates an analyte with an internal standard that does not meet established acceptance criteria. Filter Blank





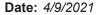
**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Metals by EPA Method 200.8** 

Project: MILL E							Total Met	tals by EP	A Method	d 200.
Sample ID: <b>MB-29688</b>	SampType: MBLK			Units: µg/L		Prep Date: 9/16/20	20	RunNo: 618	387	
Client ID: MBLKW	Batch ID: 29688					Analysis Date: 9/16/20	20	SeqNo: 124	10997	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic  NOTES:  MDL - Analyte reported to Metho	ND od Detection Limit (MDL)	0.455								MDL
Sample ID: LCS-29688	SampType: LCS			Units: μg/L		Prep Date: 9/16/20	20	RunNo: 618	387	
Client ID: LCSW	Batch ID: 29688					Analysis Date: 9/16/20	20	SeqNo: 124	10998	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	97.6	1.00	100.0	0	97.6	85 115				
Sample ID: <b>2009193-003BDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date: 9/16/20	20	RunNo: 618	387	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29688					Analysis Date: 9/16/20	20	SeqNo: <b>12</b> 4	11000	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	272	1.00					268.4	1.41	30	
Sample ID: <b>2009193-003BMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date: 9/16/20	20	RunNo: 618	387	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29688					Analysis Date: 9/16/20	20	SeqNo: <b>12</b> 4	11002	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	789	1.00	500.0	268.4	104	70 130				
Sample ID: <b>2009193-003BMSD</b>	SampType: MSD			Units: µg/L		Prep Date: 9/16/20	20	RunNo: 618	387	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29688					Analysis Date: 9/16/20	20	SeqNo: <b>12</b> 4	11003	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	767	1.00	500.0	268.4	99.6	70 130	789.1	2.90	30	

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# **QC SUMMARY REPORT**

#### CLIENT: Floyd | Snider

### Total Metals by EPA Method 200.8

Project:	MILL E								Total Met	als by EP	A Method	d 200.8
Sample ID: MB-296	88 SampTyp	e: MBLK			Units: µg/L		Prep Dat	te: <b>9/16/2</b> 0	)20	RunNo: 620	)57	
Client ID: MBLKW	Batch ID:	29688					Analysis Dat	te: <b>9/22/2</b> 0	)20	SeqNo: 124	14674	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	1.00									
Calcium		262	200									
Magnesium		ND	100									
Potassium		ND	200									
Sodium		ND	200									
-												
Sample ID: LCS-29	SampTyp	e: LCS			Units: µg/L		Prep Dat	te: <b>9/16/2</b> 0	)20	RunNo: <b>620</b>	)57	

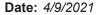
Sample ID: LCS-29688	SampType: <b>LCS</b>			Units: µg/L		Prep Da	te: <b>9/16/20</b>	20	RunNo: 620	)57	
Client ID: LCSW	Batch ID: 29688					Analysis Da	te: <b>9/22/20</b>	20	SeqNo: <b>124</b>	14675	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	102	1.00	100.0	0	102	85	115				
Calcium	1,290	200	1,000	0	129	50	150				В
Magnesium	984	100	1,000	0	98.4	50	150				
Potassium	1,010	200	1,000	0	101	50	150				
Sodium	1,040	200	1,000	0	104	50	150				

Sample ID: 2009193-003BDUP	SampType: <b>DUP</b>		Units: µg/L	Prep Date: 9/16/2020	RunNo: <b>62057</b>
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29688			Analysis Date: 9/22/2020	SeqNo: 1244677
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Arsenic	265	1.00		281.1	5.96 30
Calcium	55,100	200		56,790	3.10 30 BE
Magnesium	14,200	100		14,330	0.609 30
Potassium	8,990	200		9,387	4.35 30
Sodium	26,700	200		27,210	1.79 30 E

NOTES:

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E - Estimated value. The amount exceeds the linear working range of the instrument.





MILL E

**Work Order:** 2009193

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Total Metals by EPA Method 200.8

SampType: <b>MS</b>			Units: µg/L		Prep Da	te: <b>9/16/2</b> 0	20	RunNo: 620	)57	
Batch ID: 29688					Analysis Da	te: <b>9/22/20</b>	20	SeqNo: 124	14678	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
753	1.00	500.0	281.1	94.3	70	130				
60,600	200	5,000	56,790	76.3	50	150				BE
18,600	100	5,000	14,330	85.3	70	130				
13,900	200	5,000	9,387	91.1	50	150				
31,400	200	5,000	27,210	83.7	50	150				E
	Batch ID: 29688  Result  753 60,600 18,600 13,900	Batch ID: 29688  Result RL  753 1.00 60,600 200 18,600 100 13,900 200	Batch ID: 29688  Result RL SPK value  753 1.00 500.0 60,600 200 5,000 18,600 100 5,000 13,900 200 5,000	Batch ID: 29688  Result RL SPK value SPK Ref Val  753 1.00 500.0 281.1 60,600 200 5,000 56,790 18,600 100 5,000 14,330 13,900 200 5,000 9,387	Batch ID: 29688           Result         RL         SPK value         SPK Ref Val         %REC           753         1.00         500.0         281.1         94.3           60,600         200         5,000         56,790         76.3           18,600         100         5,000         14,330         85.3           13,900         200         5,000         9,387         91.1	Batch ID: 29688         Analysis Da           Result         RL         SPK value         SPK Ref Val         %REC         LowLimit           753         1.00         500.0         281.1         94.3         70           60,600         200         5,000         56,790         76.3         50           18,600         100         5,000         14,330         85.3         70           13,900         200         5,000         9,387         91.1         50	Batch ID: 29688         Analysis Date: 9/22/20           Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           753         1.00         500.0         281.1         94.3         70         130           60,600         200         5,000         56,790         76.3         50         150           18,600         100         5,000         14,330         85.3         70         130           13,900         200         5,000         9,387         91.1         50         150	Batch ID: 29688         Analysis Date: 9/22/2020           Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           753         1.00         500.0         281.1         94.3         70         130           60,600         200         5,000         56,790         76.3         50         150           18,600         100         5,000         14,330         85.3         70         130           13,900         200         5,000         9,387         91.1         50         150	Batch ID: 29688         Analysis Date: 9/22/2020         SeqNo: 124           Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD           753         1.00         500.0         281.1         94.3         70         130           60,600         200         5,000         56,790         76.3         50         150           18,600         100         5,000         14,330         85.3         70         130           13,900         200         5,000         9,387         91.1         50         150	Batch ID: 29688         Analysis Date: 9/22/2020         SeqNo: 1244678           Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit           753         1.00         500.0         281.1         94.3         70         130           60,600         200         5,000         56,790         76.3         50         150           18,600         100         5,000         14,330         85.3         70         130           13,900         200         5,000         9,387         91.1         50         150

### NOTES:

**Project:** 

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009193-003BMSD	SampType: MSD			Units: μg/L		Prep Da	te: <b>9/16/20</b>	20	RunNo: 620	)57	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29688					Analysis Da	te: <b>9/22/20</b>	20	SeqNo: <b>12</b> 4	14679	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	769	1.00	500.0	281.1	97.7	70	130	752.8	2.18	30	
Calcium	63,100	200	5,000	56,790	127	50	150	60,610	4.10	30	BE
Magnesium	19,300	100	5,000	14,330	100	70	130	18,600	3.92	30	
Potassium	13,900	200	5,000	9,387	89.9	50	150	13,940	0.414	30	
Sodium	32,100	200	5,000	27,210	98.2	50	150	31,400	2.29	30	E

### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

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# **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Project: MILL E											DX EX
Sample ID: <b>MB-29667</b>	SampType: MBLK			Units: µg/L		Prep Date	9/14/20	20	RunNo: 618	344	
Client ID: MBLKW	Batch ID: 29667					Analysis Date	: 9/15/20	20	SeqNo: <b>12</b> 4	10381	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.9									
Heavy Oil	ND	99.8									
Surr: 2-Fluorobiphenyl	60.3		79.85		75.6	50	150				
Surr: o-Terphenyl	61.3		79.85		76.8	50	150				
Sample ID: LCS-29667	SampType: <b>LCS</b>			Units: µg/L		Prep Date	: 9/14/20	20	RunNo: 618	344	
Client ID: LCSW	Batch ID: 29667					Analysis Date	9/15/20	20	SeqNo: <b>12</b> 4	10382	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	693	49.8	995.9	0	69.6	52	107				
Surr: 2-Fluorobiphenyl	62.6		79.67		78.6	50	150				
Surr: o-Terphenyl	60.6		79.67		76.1	50	150				
Sample ID: <b>2009196-001CDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	: 9/14/20	20	RunNo: 618	344	
Client ID: BATCH	Batch ID: 29667					Analysis Date	9/15/20	20	SeqNo: <b>12</b> 4	10585	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.5						0		30	
Heavy Oil	ND	99.1						0		30	
Surr: 2-Fluorobiphenyl	53.6		79.27		67.6	50	150		0		
Surr: o-Terphenyl	56.0		79.27		70.7	50	150		0		
Sample ID: <b>2009193-003HMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	: 9/14/20	20	RunNo: 618	351	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29667					Analysis Date	9/15/20	20	SeqNo: <b>12</b> 4	10597	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	773	49.7	994.5	0	77.8	23.6	130				
Surr: 2-Fluorobiphenyl	60.5		79.56		76.1	50	150				

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MILL E

Work Order: 2009193

**Project:** 

# **QC SUMMARY REPORT**

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

CLIENT: Floyd | Snider

Sample ID: **2009193-003HMS** SampType: **MS** Units: **µg/L** Prep Date: **9/14/2020** RunNo: **61851** 

Client ID: **PZ-2A-091120** Batch ID: **29667** Analysis Date: **9/15/2020** SeqNo: **1240597** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 2009193-003HMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>9/14/20</b>	20	RunNo: 618	351	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29667					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: <b>12</b> 4	10598	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	829	49.9	998.1	0	83.1	23.6	130	773.4	6.96	30	
Surr: 2-Fluorobiphenyl	57.3		79.85		71.7	50	150		0		
Surr: o-Terphenyl	52.9		79.85		66.3	50	150		0		

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# **QC SUMMARY REPORT**

#### CLIENT: Floyd | Snider

# **Semivolatile Organic Compounds by EPA Method 8270**

Project: MILL E					Se	mivolatile	Organ	ic Compou	nds by EP	A Metho	d 827
Sample ID: <b>MB-29698</b>	SampType: MBLK			Units: µg/L		Prep Date	: 9/16/20	20	RunNo: 621	115	
Client ID: MBLKW	Batch ID: 29698					Analysis Date	: 9/25/20	20	SeqNo: <b>124</b>	16071	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	ND	1.99									
Surr: 2,4,6-Tribromophenol	3.47		3.971		87.3	24.7	176				
Surr: 2-Fluorobiphenyl	1.77		1.986		89.0	54.8	148				
Surr: Nitrobenzene-d5	1.56		1.986		78.7	40.8	151				
Surr: Phenol-d6	1.13		3.971		28.5	5	116				
Surr: p-Terphenyl	2.07		1.986		104	51.7	162				
Sample ID: LCS-29698	SampType: <b>LCS</b>			Units: µg/L		Prep Date	: 9/16/20	20	RunNo: 621	115	
Client ID: LCSW	Batch ID: 29698					Analysis Date	9/25/20	20	SeqNo: <b>12</b> 4	16072	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	3.11	1.99	3.983	0	78.0	5	163				
Surr: 2,4,6-Tribromophenol	4.18		3.983		105	24.7	176				
Surr: 2-Fluorobiphenyl	2.01		1.992		101	54.8	148				
Surr: Nitrobenzene-d5	1.92		1.992		96.5	40.8	151				
Surr: Phenol-d6	1.34		3.983		33.6	5	116				
Surr: p-Terphenyl	2.15		1.992		108	51.7	162				
Sample ID: <b>2009193-003IMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	: 9/16/20	20	RunNo: 621	115	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29698					Analysis Date	9/25/20	20	SeqNo: <b>12</b> 4	16074	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	3.57	2.00	3.994	0	89.5	5	177				
Surr: 2,4,6-Tribromophenol	4.14		3.994		104	24.7	176				
Surr: 2-Fluorobiphenyl	1.83		1.997		91.6	54.8	148				
Surr: Nitrobenzene-d5	1.84		1.997		91.9	40.8	151				
Surr: Phenol-d6	1.27		3.994		31.7	5	116				
Surr: p-Terphenyl	1.86		1.997		93.1	51.7	162				

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MILL E

**Work Order:** 2009193

Project:

# **QC SUMMARY REPORT**

### **CLIENT:** Floyd | Snider

# **Semivolatile Organic Compounds by EPA Method 8270**

Sample ID: 2009193-003IMSD	SampType: MSD			Units: µg/L		Prep Da	te: <b>9/16/20</b>	20	RunNo: 62	115	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29698					Analysis Da	te: <b>9/25/20</b>	20	SeqNo: 124	46075	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	3.92	1.99	3.986	0	98.4	5	177	3.574	9.33	50	
Surr: 2,4,6-Tribromophenol	4.40		3.986		110	24.7	176		0		
Surr: 2-Fluorobiphenyl	1.98		1.993		99.5	54.8	148		0		
Surr: Nitrobenzene-d5	1.98		1.993		99.4	40.8	151		0		
Surr: Phenol-d6	1.42		3.986		35.6	5	116		0		
Surr: p-Terphenyl	2.10		1.993		105	51.7	162		0		

Revision v2 Page 52 of 63





**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Gasoline by NWTPH-Gx

Project: MILL E								Gasoline by NW I	PH-G
Sample ID: LCS-29684	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>9/16/2020</b>	RunNo: <b>61933</b>	
Client ID: LCSW	Batch ID: 29684					Analysis Date	e: <b>9/16/2020</b>	SeqNo: <b>1242053</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline	491	50.0	500.0	0	98.2	65	135		
Surr: Toluene-d8	25.0		25.00		100	65	135		
Surr: 4-Bromofluorobenzene	25.1		25.00		100	65	135		
Sample ID: <b>MB-29684</b>	SampType: <b>MBLK</b>			Units: µg/L		Prep Date	e: <b>9/16/2020</b>	RunNo: <b>61933</b>	
Client ID: MBLKW	Batch ID: 29684					Analysis Date	e: <b>9/16/2020</b>	SeqNo: <b>1242054</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline	ND	50.0							
Surr: Toluene-d8	25.0		25.00		99.9	65	135		
Surr: 4-Bromofluorobenzene	25.1		25.00		100	65	135		
Sample ID: <b>2009175-001BDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>9/16/2020</b>	RunNo: <b>61933</b>	
Client ID: BATCH	Batch ID: 29684					Analysis Date	e: <b>9/16/2020</b>	SeqNo: <b>1242043</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline	ND	50.0					0	30	
Surr: Toluene-d8	25.2		25.00		101	65	135	0	
Surr: 4-Bromofluorobenzene	25.0		25.00		100	65	135	0	
Sample ID: <b>2009193-003GMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	e: <b>9/16/2020</b>	RunNo: <b>61933</b>	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29684					Analysis Date	e: <b>9/16/2020</b>	SeqNo: <b>1242045</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline	547	50.0	500.0	0	109	65	135		
Surr: Toluene-d8	25.3		25.00		101	65	135		
Surr: 4-Bromofluorobenzene	25.6		25.00		102	65	135		

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MILL E

**Work Order:** 2009193

Project:

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Gasoline by NWTPH-Gx

Sample ID: 2009193-003GMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>9/16/20</b>	20	RunNo: 619	933	
Client ID: <b>PZ-2A-091120</b>	Batch ID: 29684					Analysis Da	te: <b>9/16/20</b>	20	SeqNo: 124	12046	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	553	50.0	500.0	0	111	65	135	546.8	1.17	30	
Surr: Toluene-d8	25.2		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135		0		

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# Sample Log-In Check List

С	lient Name:	FS		Work O	rder Num	ber: <b>2009193</b>		
Lo	ogged by:	Clare Grig	gs	Date Re	ceived:	9/11/2020	0 4:48:00 PM	
<u>Cha</u>	in of Custo	ody						
	Is Chain of Co	_	plete?	Yes	<b>✓</b>	No 🗌	Not Present	
2.	How was the	sample deli	vered?	Cour	<u>ier</u>			
Log	In							
_	Coolers are p	resent?		Yes	<b>✓</b>	No 🗌	NA 🗌	
٥.	occioio di o p	10001111		100				
4.	Shipping cont	tainer/coole	in good condition?	Yes	<b>✓</b>	No 🗌		
5.			n shipping container/cooler? custody Seals not intact)	Yes		No 🗌	Not Present <b>✓</b>	
6.	Was an attem	npt made to	cool the samples?	Yes	<b>✓</b>	No 🗌	NA 🗌	
7.	Were all item	s received a	at a temperature of >2°C to 6°C *	Yes	•	No 🗌	NA 🗌	
8.	Sample(s) in	proper conta	ainer(s)?	Yes	<b>✓</b>	No $\square$		
9.	Sufficient san	nple volume	for indicated test(s)?	Yes	<b>✓</b>	No $\square$		
10.	Are samples	properly pre	served?	Yes	<b>✓</b>	No 🗆		
11.	Was preserva	ative added	to bottles?	Yes	<b>✓</b>	No 🗌	NA 🗌	
						Zn Acetate &	NaOH to F fractions	
12.	Is there head	space in the	e VOA vials?	Yes	<b>✓</b>	No 🗌	NA L	
13.	Did all sample	es container	s arrive in good condition(unbroken)?	Yes	<b>✓</b>	No 🗌		
14.	Does paperw	ork match b	ottle labels?	Yes	✓	No 🗌		
15.	Are matrices	correctly ide	entified on Chain of Custody?	Yes	<b>✓</b>	No 🗌		
16.	Is it clear wha	at analyses v	were requested?	Yes	✓	No 🗌		
17.	Were all hold	ing times ab	ole to be met?	Yes	<b>✓</b>	No 🗌		
Spe	cial Handli	ng (if ap	olicable)					
_			discrepancies with this order?	Yes	<b>✓</b>	No $\square$	na 🗆	
	Person I	Notified:	Mark Jusavan Date:			9/15/2020		
	By Who	m:	Gabrielle Coeuille Via:	■ eMa	il 🗸 Ph	none Fax	In Person	
	Regardi		Sample given to us not on COC. One s					
	_	_	Change sample name. Add new sampl				tot & diss metals	
19.	Additional ren		•					_
	Information							
		Itam #	Town 9C					

2.3

Sample

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

3	Chain of Custody Record & Laboratory Services Agreement
	Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 7009193
The state of the s	Project Name: M) LLT
Client: PLCYDISNIDE F	
300 315 NOIND 100 31800	Collected by: MARK JUSAYAN
1. 30 NA 98 NA 98	Location:
200-291-20	(PM
	PAMEMAIL LYNN, CROCHALA @ FLOYD & VIPER COM
	1
Sample Sample Sample Type  Sample Name  Date  Sample (Matrix)*	\$\\ \signature \
(3)-0911/20 9-11-70 1040	4
MW-050-091120 1 1040 1	
2411 0211150 CBD-WM .	
MN-1085-091120 1150	
8 MW-090-09/10 0855	
, ?2-25-091120 0855	X X MS/MSD COLEGED LOCATED TO
10	
· MW-0410-091120 / 0913	
<	X X X X X X X X X X X X X X X X X X X
ous, 8 = 8ulk,	= Drinking Water, GW = Ground Water, SW = Storm Water, WW = Wast
***Anions (Girde): Nitrate) Wittite) Chloride (Sulfate) Bri	Bromide O-Phosphate Fluoride Nitrate+Nitrite
I represent that I am authorized to enter into this Agreement v	remont Analytical on behalf of
each of the terms on the front and backside of this Agreement.	Received Date/Time 2 Day
THE STATE OF THE S	x Mon in
X marx/minen	X

COC 1.2 - 2.22 17

	- ω	Chain of Custody Recor	ecord & Laboratory Services Agreement	s Agreement
Analytical	Tel: 206-352-3790 Fax: 206-352-7178	Date: 9-11-20 Page:	of: 2 Laboratory Project No (Internal):  Special Remarks:	5616002
J301 NS/DNJA 1251	r	1	edits 9/11/20 per MJ -cg	JJ -cg ge 58
92	300 415	collected by: MAPK JUSAYAN		_Рас
CHY, State, ZIP: FRATLE, NA 98 101	3	1777		
	8402	(PM): CYNN (	Sample Disposal: Return to client	lient Oisposal by lab (after 30 days)
1	45/84	PMEMAIL: LYNN, CFOCHALA	@ FLOYD SUPER COM	er.
		nic Go rico		
Sample Name	Sample Sample Type	CS [04 250]  2 05 [04 250]  2 05 [04 250]  2 05 [04 250]  2 05 [04 250]  2 05 [04 250]  2 05 [04 250]		Comments
(D-091120)	NE CHO CE-11-6		0 X XX XX Diss Met =	As, Fe, Mn
-			Total Met =	Ca, Mg, K, Na, As
\$2-2A-09112C	(323)			
MW-085-09/1120	241			
5 MIN-1085-091120	18			
MW-080-BACO	0868			
, ?2-25-091120	255	×	USW/SM	COLECTED VOLITORIA
of 110-040-mm.	odpo			
· MW-040-091120	1093			
10 PE-5A-071120	A 55h! A	×××	WW WWW + REWA	
ous, B = Bulk,	Other, P = Product, S = Soil, SD =	O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water,	GW = Ground Water, SW = Storm Water, WW = Waste Water	Turn-ground Time:
MTCA-5 RCRA-8	ants TAL	Ag	Mg Mn Mo Na NI Pb Sb Se Sr Sn TI TI U V Zn	Standard
***Anions (Circle): (Nitrate*) (vitrite)	Chloride (Sulfate) (Bromide)	le) 6-Phosphate Fluoride Nitrate+Nitrite		
I represent that I am authorized to enter into this Agreement veach of the terms on the front and backside of this Agreement.	nter into this Agreement with ackside of this Agreement.	Fremont Analytical on behalf of the Client n	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	ment to 3 Day
Relinguished AMA	9/11/20	16:48 × MON W	8/11/12 1648	Next Day
Reliaduished	Date/Time	Received	Date/TimE ~	Same Day (specify)

FREMONT Tel: 206-352-3790  ATTOMATICAL Fox: 206-352-3790 Fox: 206-	Same Day (specify)		Date/Time ~	x		Time	Date/Time		x x
Freemont  Sent Present was asson  Than of Custody Record & Laboratory Services Agreement  Sent 20-23-2707  Free 25-23-2707  F	Next Day	8491	2 1113 amil Janes	× MOW M	1648	1/16	W Sage	A A	of the
Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May State Secretic May Secretic M		e verified Client's agreement to	named above and that I have	t Analytical on behalf of the Client	nt with Fremor	of this Agreeme	enter into	that I am authorized to erms on the front and I	I represent
Seatile, was 9 State.  Seatile, was 9 State.  Seatile, was 9 State.  The 206 9232339  Fax: 206 9232339		AAA	te		(Bromide) &		Chloride	(Nitrate <sup>3</sup> )	**Anions (Circl
Section by Services Agreement.    Chain of Custody Record & Laboratory Peper No. 9617 Services Agreement.	Standard	Sn Ti Ti U	K Mg Mm Mo Na NI Pb Sb S	84 @ 10 00 00 00 88 88 8(N)	Individual: Ag Al	1	Priority Pollu	RCRA-8	*Metals (Circle
TOTAL Seatile, WAS SEASON From the Was Season Season From the Was	Turn-around Time:		er, GW = Ground Water, SW = Stor	St = Solid, W = Water, DW = Drinking Wate	l, SD = Sediment,	= Product, S = Soi	= Other, P		Matrix: A = Air,
Section from of the setting of the s				×	4	1455	<	A-091120	10 82-5
The 2005-252-2529 to 2005-2529 to 2005-2						C913		0410-041120	· MW-
Tet: 265-352-3790 Tet: 265-352	C	mwdi 9/14/2				Spo		AD-031170	S MUS
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Seartie, NA, 98139  Tel: 206-332-7178  Fax: 206-332-7178  Project Name: M) UE  AA TELO!  Identify: MATH JUNA AA  Identify: MATH JUNA AA  Sample Sample Sample Sample Sample Sample Sample Materials: LYNIN, CFC CHALA & FLOYD AUPEL COMPANIES OF SAMPLE Sample						08%		32/20/CB	MU
Chain of Custody Record & Laboratory Services Agreement   Chain of Custody Record & Laboratory Services Agreement   Services Agreemen						8		5-091120	MN-10
Tremont ve N.  State: S		mwdi 9/14/20		144		シャニ		5-51120	MW-CE
TOTAL Sample Sam		X-per MJ, run Gx,				(325)		091120	42-28 E
Fremont Seattle, WA 98103 Tel: 206-352.3793 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 98103 Tel: 206-352.3793 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Tel: 206-352.3793 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Tel: 206-352.3793 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page: 9-11-20 Page: 1 Of: 1 Page: 1 Of: 1 Page: 1 Of: 2 Page: 1 Of: 2 Laboratory Project No (Internal): 700.919 Seattle, WA 9103 Date: 9-11-20 Page:		Total Met = Ca, N	=;			CHO	_	50-091120	NW-C
Fremont seattle, WA 98103 reit 206-352-3728 reject Name: M) LE RECORD SATISTICS FOR 206-352-3728 reject Name: M) LE Report To [PM]: LYNIN CSC HALA C FLOYD SAMPEL CAMBE Sample Sa	e, Mn	Diss Met = As, Fo	7			SE C. 150	9-11-2	(2)-091120	S-MM
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Fremont are N. Seattle, WA 98103 Tel: 206-352-3728 Project Name: MINUTE GOOD Collected by: MASHL JUNAYAN  Seattle, WA 98103 Tel: 206-352-3728 Project Name: MINUTE GOOD Collected by: MASHL JUNAYAN  SEATTLE WAS 18 161 Location: EVERTI, WA  TOU-CET-7807 Project No.   Collected by: MASHL JUNAYAN Sample Disposal: Return to client 206sposal by lab (after 30 days)		The state of the s	1/2	nic los locarios de la constante de la constan					
Fremont ave N. Seattle, wa 98103 Tel: 206-352-3790 Fax: 206-352-3798 Fax: 206-352-7178 Froject No:    Fremont Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-3799 Fax: 206-352-7178 Froject No:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Fremont Ave N. Seattle, wa 98103 Tel: 206-352-7178 Froject No:   Page:   of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Page:   Of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Page:   Of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Page:   Of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Page:   Of: 2 Laboratory Project No (Internal): 700 9/9 Septial Remarks:   Page:   Of: 2 Laboratory Project		TIPES CONTO	AC FLOYD	LYNN, OF CHA	PM Emai	T.	784	200-C87-	Fax:
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Fremont Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Fax: 206-352-7178 Froject Name: MILLE Project No: Project No: Chain of Custody Record & Laboratory Services Agreement Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Project Name: MILLE Project No: Collected by: MAP-K JUANAN  Chain of Custody Record & Laboratory Services Agreement Special Remarks: edits 9/11/20 per MJ -cg				1	Location	18/01	VA	Ť.,	City, State, Zip:
Fremont Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Froject Name: M) UF Project No:  Chain of Custody Record & Laboratory Services Agreement  Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Project Name: M) UF Project No:  Project No:	Paç		>	L			37%	NO (NO )	Address: (£
Seattle, WA 98103 Tel: 206-352-3790 Fax: 206-352-7178 Project Name: M) UF  Chain of Custody Record & Laboratory Services Agreement Laboratory Project No (Internal): 700 919 5  Special Remarks:		edits 9/11/20 per MJ -co	6		Project N		ア	301 NG/DNO	Client: FU
Seattle, WA 98103 Tel: 206-352-3790 Date: 9-11-20 Page: 1 of: 2 Laboratory Project No (Internal): 700 919 5		ecial Remarks:	Sp	MUUF		Fax: 206-352-	RITA.	Analyti	
3600 Fremont Ave N. Chain of Custody Recor			2			Tel: 206-352-	7	CITO	
The state of the s	greement	atory services A	(ecord & Labor	Chain of Custody R	e N	3600 Fremont Av	_		

3600 F	3600 Fremont Ave N.	Chain of Custody Record & Labo	Laboratory Services Agreement
s	Seattle, WA 98103 Tel: 206-352-3790	N	
Analysical	Fax: 206-352-7178		
dient Flayd Snider			ge 6
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City, State, Zip:		Location:	
Telephone:		Report To (PM):	Sample Disposal: Return to client Disposal by lab (after 30 days)
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365-684021150 ONLASOS	OS GW		XX + PENTA
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*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water,	rct, S = Soil, SD = So	GW = Ground Water,	SW = Storm Water, WW = Waste Water Turn-ground Time:
RCRA-8 Pr	TAL Individua	Individual: Ag A A B Ba Be Ca Cd Co Cr Cu (Fe) Hg K Mg (Mr) Mo Na Ni Pb Sb	Se Sr Sn Tl Tl U V Zn Standard
*** Anions (Circle): (vitrate) (vitrite) (Chloride)	Sulfate (Bromide)	O-Phosphate Fluoride Nitrate+Nitrite	
I represent that I am authorized to enter into this Agreement v	Agreement with	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement	ve verified Client's agreement to
Relinquished Date/Time	- Brement	Received Date/Time	□ 2 Day
JBH 13	09/11/2020	1.48 × WW. W WILLIAM . 811.130	16 11 6 Next Day
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Test 206-352-3798  Test 206-352-3798  Fast 206-352-						C112			9 MW-0
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Secutic, WA 98103 Tel: 206-352-7178 Fax: 206-352		X-per MJ, run Gx				(552)		091120	12-7A
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Fremont	Seattle, WA 98103 Tel: 206-352-3790				
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dient Flayd Snider	***************************************				ae 61
Address:		Collected by:			De
City, State, Zip:	7	Location:			
Telephone:		Report To (PM):	5	Sample Disposal: 🔲 Return to client 🛚 🕱	Disposal by lab (after 30 days)
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Sample Name Sample	Sample Sample Type tte Time (Matrix)*	\$ 15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		A STATE OF THE PARTY OF THE PAR	Comments
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*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water,	P = Product, S = Soil, SD = Se	ediment, $SL = Solid$ , $W = Water$ , $DW = Drinking$	GW = Ground Water,	SW = Storm Water, WW = Waste Water	Turn-around Time:
**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants	ollutants TAL Individual:	It AB A AS B Ba Be Ca Cd Co Cr Cu (Fe) HB K MB (MIT)	Mo Na Ni Pb Sb	Se Sr Sn Tl Tl U V Zn	Standard
***Anions (Circle): (witratk) (witrite) (Chloride)	ride Vulfate (Bromide)	O-Phosphate Fluoride	Nitrate+Nitrite		) ]
I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	nto this Agreement with le of this Agreement.	Fremont Analytical on behalf of the Cl	lient named above and that I hav	ve verified Client's agreement to	3 Day
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X	Date/ Hitte	x	Date/Time		Same Day (specify)



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: MILL E

Work Order Number: 2009198

September 25, 2020

### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 1 sample(s) on 9/14/2020 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Dissolved Organic Carbon by SM 5310C
Ion Chromatography by EPA Method 300.0
Sulfide by SM 4500-S2-F
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

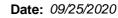
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910





CLIENT: Floyd | Snider Work Order Sample Summary

**Project:** MILL E **Work Order:** 2009198

Lab Sample ID Client Sample ID Date/Time Collected Date/Time Received

2009198-001 MW-09S-091420 09/14/2020 8:50 AM 09/14/2020 10:48 AM



### Case Narrative

WO#: **2009198**Date: **9/25/2020** 

CLIENT: Floyd | Snider

Project: MILL E

### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



# **Qualifiers & Acronyms**

WO#: **2009198** 

Date Reported: 9/25/2020

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



# **Analytical Report**

Work Order: **2009198**Date Reported: **9/25/2020** 

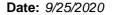
Client: Floyd | Snider Collection Date: 9/14/2020 8:50:00 AM

Project: MILL E

Lab ID: 2009198-001 Matrix: Groundwater

Client Sample ID: MW-09S-091420

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA M	ethod 300.0			Batc	h ID: 29	703 Analyst: TN
Fluoride	0.628	0.100		mg/L	1	9/16/2020 5:35:00 PM
Chloride	18.3	5.00	D	mg/L	50	9/15/2020 10:55:00 PM
Nitrite (as N)	ND	0.100	Н	mg/L	1	9/16/2020 5:35:00 PM
Bromide	ND	0.400	• • •	mg/L	1	9/16/2020 5:35:00 PM
Nitrate (as N)	ND	0.100	Н	mg/L	1	9/16/2020 5:35:00 PM
Ortho-Phosphate (as P)	ND	0.200	Н	mg/L	1	9/16/2020 5:35:00 PM
Sulfate	31.4	15.0	D	mg/L	50	9/15/2020 10:55:00 PM
Dissolved Metals by EPA Metho	od 200.8			Bato	h ID: 29	686 Analyst: CO
Arsenic	114	0.500		μg/L	1	9/18/2020 1:37:35 AM
Iron	8,760	100		μg/L	1	9/21/2020 6:59:48 PM
Manganese	363	2.00		μg/L	1	9/18/2020 1:37:35 AM
Total Metals by EPA Method 20	00.8			Bato	h ID: 29	671 Analyst: CO
Arsenic	112	1.00		μg/L	1	9/18/2020 1:52:26 PM
Calcium	70,800	2,000	D	μg/L	10	9/21/2020 10:58:40 AM
Magnesium	9,270	100		μg/L	1	9/18/2020 1:52:26 PM
Potassium	7,470	200		μg/L	1	9/18/2020 1:52:26 PM
Sodium	30,900	2,000	D	μg/L	10	9/21/2020 10:58:40 AM
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R6	S2116 Analyst: SS
Organic Carbon, Dissolved	4.25	0.500		mg/L	1	9/23/2020 6:42:00 AM
Total Organic Carbon by SM 53	310C			Bato	h ID: R6	S1980 Analyst: SS
Total Organic Carbon	5.16	0.500		mg/L	1	9/16/2020 7:07:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: Ré	S2122 Analyst: WF
Alkalinity, Total (As CaCO3)	216	2.50		mg/L	1	9/25/2020 10:37:57 AM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	S1956 Analyst: SS
Sulfide	0.600	0.500		mg/L	1	9/18/2020 11:15:00 AM





MILL E

2009198 Work Order:

Alkalinity, Total (As CaCO3)

Project:

**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider

**Total Alkalinity by SM 2320B** 

Qual

Sample ID: MB-R62122 SampType: MBLK	Units: <b>mg/L</b>	Prep Date: <b>9/25/2020</b>	RunNo: <b>62122</b>
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Client ID: MBLKW Batch ID: R62122 Analysis Date: 9/25/2020 SeqNo: 1246203

Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte

Alkalinity, Total (As CaCO3) ND 2.50

100

Sample ID: LCS-R62122 SampType: LCS Units: mg/L Prep Date: 9/25/2020 RunNo: 62122 Analysis Date: 9/25/2020 Client ID: LCSW Batch ID: R62122 SeqNo: 1246204

Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte 100.0

2.50

Sample ID: 2009193-007ADUP SampType: DUP Units: mg/L Prep Date: 9/25/2020 RunNo: 62122 Client ID: BATCH Batch ID: R62122 Analysis Date: 9/25/2020 SeqNo: 1246206

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

0

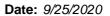
100

108

99.6

20 Alkalinity, Total (As CaCO3) 421 2.50 426.3 1.16

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Dissolved Organic Carbon by SM 5310C

Project: MILL E							Dissolved Org	anic Carbon by SM	5310C
Sample ID: MB-R62116	SampType: <b>MBLK</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>62116</b>	
Client ID: MBLKW	Batch ID: R62116					Analysis Date:	9/22/2020	SeqNo: <b>1246135</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Organic Carbon, Dissolved	ND	0.500							
Sample ID: LCS-R62116	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>62116</b>	
Client ID: LCSW	Batch ID: R62116					Analysis Date:	9/22/2020	SeqNo: <b>1246136</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Organic Carbon, Dissolved	5.10	0.500	5.000	0	102	94.4	109		
Sample ID: 2009179-001DDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>62116</b>	
Client ID: BATCH	Batch ID: R62116					Analysis Date:	9/22/2020	SeqNo: <b>1246138</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Organic Carbon, Dissolved	14.7	0.500					14.66	0.565 20	
Sample ID: <b>2009179-001DMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>62116</b>	
Client ID: BATCH	Batch ID: R62116					Analysis Date:	9/22/2020	SeqNo: <b>1246139</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Organic Carbon, Dissolved	19.2	0.500	5.000	14.66	90.5	80.9	124		
Sample ID: <b>2009179-001DMSD</b>	SampType: <b>MSD</b>			Units: mg/L		Prep Date:	9/22/2020	RunNo: <b>62116</b>	
Client ID: BATCH	Batch ID: R62116					Analysis Date:	9/22/2020	SeqNo: <b>1246140</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Organic Carbon, Dissolved	19.0	0.500	5.000	14.66	87.3	80.9	124 19.18	0.817 30	

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**Date:** 9/25/2020



MILL E

**Work Order:** 2009198

Project:

## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Dissolved Organic Carbon by SM 5310C** 

Client ID: BATCH Batch ID: R62116 Analysis Date: 9/23/2020 SeqNo: 1246156

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

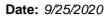
 Organic Carbon, Dissolved
 5.74
 0.500
 5.823
 1.51
 20

Client ID: **BATCH** Batch ID: **R62116** Analysis Date: **9/23/2020** SeqNo: **1246157** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Organic Carbon, Dissolved 10.7 0.500 5.000 5.823 96.9 80.9 124

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## **QC SUMMARY REPORT**

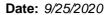
CLIENT: Floyd | Snider

Project: MILL E							lon Ch	romatograp	ohy by EP	A Method	0.00E b
Sample ID: <b>MB-29703</b>	SampType: MBLK			Units: mg/L		Prep Date:	9/15/20	20	RunNo: 618	368	
Client ID: MBLKW	Batch ID: 29703					Analysis Date:	9/15/20	20	SeqNo: 124	41171	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.100									
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Bromide	ND	0.400									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.200									
Sulfate	ND	0.300									
Sample ID: LCS-29703	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/15/20	20	RunNo: 618	368	
Client ID: LCSW	Batch ID: 29703					Analysis Date:	9/15/20	20	SeqNo: 124	41172	
									0/ 000		

Sample ID: LCS-29703	SampType: LCS			Units: mg/L	Prep Date: 9/15/2020			20	RunNo: 61868		
Client ID: LCSW	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	20	SeqNo: 124	11172	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.503	0.100	0.5000	0	101	90	110				
Chloride	0.748	0.100	0.7500	0	99.7	90	110				
Nitrite (as N)	0.753	0.100	0.7500	0	100	90	110				
Bromide	2.48	0.400	2.500	0	99.2	90	110				
Nitrate (as N)	0.746	0.100	0.7500	0	99.5	90	110				
Ortho-Phosphate (as P)	1.35	0.200	1.250	0	108	90	110				
Sulfate	3.73	0.300	3.750	0	99.4	90	110				

Sample ID: 2009193-011ADUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date: 9/15/2020	RunNo: <b>61868</b>
Client ID: BATCH	Batch ID: 29703			Analysis Date: 9/15/2020	SeqNo: <b>1241178</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Fluoride	ND	5.00		0	20 D
Chloride	73.8	5.00		73.60	0.204 20 D
Nitrite (as N)	ND	5.00		0	20 DH
Bromide	ND	20.0		0	20 D
Nitrate (as N)	ND	5.00		0	20 DH

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Sulfate

## **QC SUMMARY REPORT**

D

20

#### **CLIENT:** Floyd | Snider

## Ion Chromatography by EPA Method 300.0

0

Project:	MILL E							Ion Ch	romatograp	ohy by EP	A Method	1 300.0
Sample ID: 2009	9193-011ADUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>9/15/2</b> 0	)20	RunNo: 618	368	
Client ID: BAT	СН	Batch ID: 29703					Analysis Da	te: <b>9/15/20</b>	)20	SeqNo: <b>12</b> 4	11178	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ortho-Phosphate	e (as P)	ND	10.0						0		20	DH

Sample ID: 2009193-011AMS	SampType: <b>MS</b>			Units: mg/L	Prep Date: 9/15/2020			RunNo: 61868	
Client ID: BATCH	Batch ID: 29703					Analysis Da	te: <b>9/15/2020</b>	SeqNo: <b>1241179</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Fluoride	24.4	5.00	25.00	3.100	85.2	80	120		D
Chloride	110	5.00	37.50	73.60	96.7	80	120		D
Nitrite (as N)	34.8	5.00	37.50	0	92.7	80	120		DH
Bromide	116	20.0	125.0	14.25	81.1	80	120		D
Nitrate (as N)	34.2	5.00	37.50	0	91.1	80	120		DH
Ortho-Phosphate (as P)	48.5	10.0	62.50	0	77.6	80	120		DSH
Sulfate	171	15.0	187.5	0	91.3	80	120		D

#### NOTES:

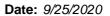
ND

15.0

Sample ID: 2009193-011AMSD	SampType: <b>MSD</b>			Units: mg/L		Prep Da	te: <b>9/15/2</b> 0	)20	RunNo: 618	368	
Client ID: BATCH	Batch ID: 29703					Analysis Date: 9/15/2020			SeqNo: <b>1241180</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	24.6	5.00	25.00	3.100	86.0	80	120	24.40	0.816	20	D
Chloride	111	5.00	37.50	73.60	98.7	80	120	109.8	0.680	20	D
Nitrite (as N)	35.0	5.00	37.50	0	93.5	80	120	34.75	0.860	20	DH
Bromide	116	20.0	125.0	14.25	81.5	80	120	115.6	0.431	20	D
Nitrate (as N)	34.4	5.00	37.50	0	91.6	80	120	34.15	0.584	20	DH
Ortho-Phosphate (as P)	56.8	10.0	62.50	0	90.9	80	120	48.50	15.8	20	DH
Sulfate	174	15.0	187.5	0	92.7	80	120	171.2	1.54	20	D

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.





## **QC SUMMARY REPORT**

## **CLIENT:** Floyd | Snider

Ion Chromatography by EPA Method 300.0

	,	•
Project:	MILL	Ε

Sample ID: 2009179-011ADUP	SampType: <b>DUP</b>		Units: mg/L	Prep Date: 9/15/2020	RunNo: <b>61868</b>
Client ID: BATCH	Batch ID: 29703			Analysis Date: 9/16/2020	SeqNo: 1241218
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Fluoride	ND	5.00		0	20 D
Chloride	77.7	5.00		77.10	0.711 20 D
Nitrite (as N)	ND	5.00		0	20 DH
Bromide	ND	20.0		0	20 D
Nitrate (as N)	ND	5.00		0	20 DH
Ortho-Phosphate (as P)	ND	10.0		0	20 DH
Sulfate	15.3	15.0		15.35	0.326 20 D

Sample ID: 2009179-011AMS	SampType: MS			Units: mg/L	ng/L Prep Date: 9/15/2020			10	RunNo: 61868		
Client ID: BATCH	Batch ID: 29703					Analysis Dat	te: <b>9/16/202</b>	10	SeqNo: <b>12</b> 4	11219	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit I	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	20.4	5.00	25.00	2.050	73.6	80	120	,			DS
Chloride	107	5.00	37.50	77.10	78.7	80	120				DS
Nitrite (as N)	30.2	5.00	37.50	0	80.7	80	120				DH
Bromide	100	20.0	125.0	0	80.1	80	120				D
Nitrate (as N)	29.5	5.00	37.50	0	78.7	80	120				DSH
Ortho-Phosphate (as P)	55.2	10.0	62.50	0	88.3	80	120				DH
Sulfate	144	15.0	187.5	15.35	68.9	80	120				DS
NOTES											

#### NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID: 2009179-011AMSD	SampType: <b>MSD</b>			Units: mg/L		Prep Dat	e: <b>9/15/20</b>	20	RunNo: 618	368	
Client ID: BATCH	Batch ID: 29703					Analysis Dat	te: <b>9/16/20</b>	20	SeqNo: <b>124</b>	11220	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	22.0	5.00	25.00	2.050	79.8	80	120	20.45	7.30	20	DS
Chloride	112	5.00	37.50	77.10	93.6	80	120	106.6	5.12	20	D
Nitrite (as N)	33.4	5.00	37.50	0	89.1	80	120	30.25	9.90	20	DH
Bromide	110	20.0	125.0	0	87.8	80	120	100.1	9.20	20	D

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Date: 9/25/2020



MILL E

**Work Order:** 2009198

## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

## Ion Chromatography by EPA Method 300.0

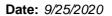
Sample ID: 2009179-011AMSD	SampType: <b>MSD</b>			Units: mg/L		Prep Da	te: <b>9/15/20</b>	)20	RunNo: 618	368	
Client ID: BATCH	Batch ID: 29703					Analysis Da	te: <b>9/16/20</b>	)20	SeqNo: <b>12</b> 4	11220	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	32.5	5.00	37.50	0	86.7	80	120	29.50	9.68	20	DH
Ortho-Phosphate (as P)	62.4	10.0	62.50	0	99.9	80	120	55.20	12.3	20	DH
Sulfate	159	15.0	187.5	15.35	76.8	80	120	144.4	9.78	20	DS

### NOTES:

Project:

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S - Outlying spike recovery(ies) observed.





**QC SUMMARY REPORT** 

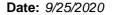
**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Project: MILL E									Sullide b	y 31VI 43U	U-32-F
Sample ID: MB-R61956	SampType: MBLK			Units: mg/L		Prep Date:	9/18/2020		RunNo: 619	956	
Client ID: MBLKW	Batch ID: R61956					Analysis Date:	9/18/2020		SeqNo: 124	12571	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	0.500									
Sample ID: LCS-R61956	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/18/2020		RunNo: 619	956	
Client ID: LCSW	Batch ID: R61956					Analysis Date:	9/18/2020		SeqNo: 124	12572	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Sulfide	1.60	0.500	2.000	0	80.0	74.9	118				
Sample ID: <b>2009193-006FDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/18/2020		RunNo: 619	956	
Client ID: BATCH	Batch ID: R61956					Analysis Date:	9/18/2020		SeqNo: 124	12574	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.600	0.500						0.8000	28.6	30	
Sample ID: <b>2009198-001FDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/18/2020		RunNo: 619	956	
Client ID: <b>MW-09S-091420</b>	Batch ID: R61956					Analysis Date:	9/18/2020		SeqNo: 124	12584	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Sulfide	ND	0.500						0.6000	40.0	30	
Sample ID: <b>2009198-001FMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date:	9/18/2020		RunNo: 619	956	
Client ID: <b>MW-09S-091420</b>	Batch ID: R61956					Analysis Date:	9/18/2020		SeqNo: 124	12585	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit RP	D Ref Val	%RPD	RPDLimit	Qual
Sulfide NOTES:	3.20	0.500	2.000	0.6000	130	74.9	118				S

S - Outlying spike recovery(ies) observed.

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MILL E

Work Order: 2009198

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Sample ID: 2009198-001FMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>9/18/20</b>	)20	RunNo: 619	56	
Client ID: MW-09S-091420	Batch ID: R61956					Analysis Da	te: <b>9/18/20</b>	)20	SeqNo: <b>12</b> 4	2586	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	2.00	0.500	2.000	0.6000	70.0	74.9	118	3.200	46.2	30	RS

#### NOTES:

Project:

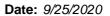
SR - Outlying spike recovery(ies) and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Sample ID: 2009226-001FMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/18/20</b>	20	RunNo: 619	956	
Client ID: BATCH	Batch ID: R61956					Analysis Da	te: <b>9/18/20</b>	20	SeqNo: 124	12589	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	6.00	0.500	2.000	0.4000	280	74.9	118				S

#### NOTES:

S - Outlying spike recovery(ies) observed.

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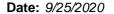
**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project: MILL E						I otal C	Organic Carbon by SM 53	310C
Sample ID: MB-R61980	SampType: <b>MBLK</b>			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>	
Client ID: MBLKW	Batch ID: R61980				,	Analysis Date: <b>9/15/2020</b>	SeqNo: <b>1243162</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref	Val %RPD RPDLimit Q	Qual
Total Organic Carbon	ND	0.500						
Sample ID: LCS-R61980	SampType: <b>LCS</b>			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>	
Client ID: LCSW	Batch ID: R61980				,	Analysis Date: <b>9/15/2020</b>	SeqNo: <b>1243163</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref	Val %RPD RPDLimit Q	Qual
Total Organic Carbon	5.30	0.500	5.000	0	106	90 118		
Sample ID: 2009179-011EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Date: 9/15/2020	RunNo: <b>61980</b>	
Client ID: BATCH	Batch ID: R61980				,	Analysis Date: <b>9/15/2020</b>	SeqNo: <b>1243165</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref	Val %RPD RPDLimit Q	Qual
Total Organic Carbon	10.8	0.500				10.	66 1.58 20	
Sample ID: <b>2009179-011EMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date: <b>9/15/2020</b>	RunNo: <b>61980</b>	
Client ID: BATCH	Batch ID: R61980				,	Analysis Date: <b>9/15/2020</b>	SeqNo: <b>1243166</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref	Val %RPD RPDLimit Q	Qual
Total Organic Carbon	15.5	0.500	5.000	10.66	96.3	80.9 124		
Sample ID: <b>2009179-011EMSD</b>	SampType: <b>MSD</b>			Units: mg/L		Prep Date: <b>9/15/2020</b>	RunNo: <b>61980</b>	
Client ID: BATCH	Batch ID: R61980				,	Analysis Date: <b>9/15/2020</b>	SeqNo: <b>1243167</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref	Val %RPD RPDLimit Q	Qual
Total Organic Carbon	15.1	0.500	5.000	10.66	88.5	80.9 124 15	.47 2.54 30	

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Analyte

**QC SUMMARY REPORT** 

%RPD RPDLimit

Qual

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

**Project:** MILL E Sample ID: 2009193-003EDUP SampType: **DUP** Units: mq/L

Result

Prep Date: 9/16/2020 RunNo: 61980

Client ID: BATCH Batch ID: R61980 Analysis Date: 9/16/2020 SeqNo: 1243173 SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

**Total Organic Carbon** 7.84 0.500 7.948 1.36 20

Sample ID: 2009193-003EMS SampType: MS Units: mg/L Prep Date: 9/16/2020 RunNo: 61980 Client ID: BATCH Batch ID: R61980 Analysis Date: 9/16/2020 SeqNo: 1243174

Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte

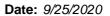
**Total Organic Carbon** 12.6 80.9 124 0.500 5.000 7.948 93.9

RL

Sample ID: 2009193-003EMSD SampType: MSD Units: mg/L Prep Date: 9/16/2020 RunNo: 61980 Client ID: BATCH Batch ID: R61980 Analysis Date: 9/16/2020 SeqNo: 1243175 SPK value SPK Ref Val %RPD RPDLimit Analyte Result RL %REC LowLimit HighLimit RPD Ref Val Qual

30 **Total Organic Carbon** 12.5 0.500 5.000 7.948 91.2 80.9 124 12.64 1.10

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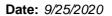
## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

### Dissolved Metals by EPA Method 200.8

Project: MILL E							Dis	solved Met	tals by EP	A Method	J 200.8
Sample ID: <b>MB-29686</b>	SampType: MBLK			Units: μg/L		Prep Date	9/16/20	20	RunNo: 619	939	
Client ID: MBLKW	Batch ID: 29686					Analysis Date	9/17/20	20	SeqNo: <b>12</b> 4	42257	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit 1	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.500									
Manganese	ND	2.00									
Sample ID: LCS-29686	SampType: <b>LCS</b>			Units: µg/L		Prep Date	9/16/20	20	RunNo: 619	939	
Client ID: LCSW	Batch ID: 29686					Analysis Date	9/17/20	20	SeqNo: 124	42258	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	0.500	100.0	0	101	85	115				
Manganese	111	2.00	100.0	0	111	85	115				
Sample ID: 2009179-011CDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Date	9/16/20	20	RunNo: 619	939	
Client ID: BATCH	Batch ID: 29686					Analysis Date	9/17/20	20	SeqNo: 124	42262	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.8	0.500						20.86	10.5	30	
Manganese	222	2.00						216.6	2.66	30	
Sample ID: <b>2009179-011CMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	9/16/20	20	RunNo: 619	939	
Client ID: BATCH	Batch ID: 29686					Analysis Date	9/18/20	20	SeqNo: 124	42263	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	546	0.500	500.0	20.86	105	70	130				
Manganese	750	2.00	500.0	216.6	107	70	130				

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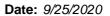


## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: MILL E						Dis	solved Met	tals by EPA Metho	d 200.8
Sample ID: 2009179-011CMSD	SampType: MSD			Units: µg/L		Prep Date: 9/16/20	20	RunNo: <b>61939</b>	
Client ID: BATCH	Batch ID: 29686					Analysis Date: 9/18/20	20	SeqNo: 1242264	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Arsenic	584	0.500	500.0	20.86	113	70 130	546.0	6.79 30	
Manganese	817	2.00	500.0	216.6	120	70 130	750.1	8.56 30	
Sample ID: <b>MB-29686</b>	SampType: <b>MBLK</b>			Units: µg/L		Prep Date: <b>9/16/20</b>	20	RunNo: <b>61939</b>	
Client ID: MBLKW	Batch ID: 29686					Analysis Date: 9/21/20	20	SeqNo: 1243501	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Iron	ND	100							
Sample ID: <b>MB-29686</b>	SampType: <b>MBLK</b>			Units: µg/L		Prep Date: <b>9/16/20</b>	20	RunNo: <b>62002</b>	
Client ID: MBLKW	Batch ID: 29686					Analysis Date: 9/21/20	20	SeqNo: <b>1243650</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Arsenic	ND	0.500							
Sample ID: LCS-29686	SampType: <b>LCS</b>			Units: µg/L		Prep Date: <b>9/16/20</b>	20	RunNo: <b>61939</b>	
Client ID: LCSW	Batch ID: 29686					Analysis Date: 9/21/20	20	SeqNo: <b>1243502</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Iron	917	100	1,000	0	91.7	50 150			
Sample ID: LCS-29686	SampType: <b>LCS</b>			Units: µg/L		Prep Date: <b>9/16/20</b>	20	RunNo: <b>62002</b>	
Client ID: LCSW	Batch ID: 29686					Analysis Date: 9/21/20	20	SeqNo: <b>1243651</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit	Qual
Arsenic	98.9	0.500	100.0	0	98.9	85 115			

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

## **Dissolved Metals by EPA Method 200.8**

Project:	MILL E							Di	ssolved Me	tals by EP	A Method	8.002 t
Sample ID: 200	09179-011CDUP	SampType: <b>DUI</b>	)		Units: µg/L		Prep Da	te: <b>9/16/2</b>	020	RunNo: 619	939	
Client ID: BA	тсн	Batch ID: 296	86				Analysis Da	te: <b>9/21/2</b>	020	SeqNo: 124	43505	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		493	100						518.3	5.08	30	
Sample ID: 200	09179-011CDUP	SampType: <b>DUI</b>	•		Units: µg/L		Prep Da	te: <b>9/16/2</b>	020	RunNo: 620	002	
Client ID: BA	тсн	Batch ID: 296	86				Analysis Da	te: <b>9/21/2</b>	020	SeqNo: 124	43653	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		23.6	0.500						23.91	1.18	30	
Sample ID: 200	09179-011CMS	SampType: MS			Units: μg/L		Prep Da	te: <b>9/16/2</b>	020	RunNo: 619	939	-
Client ID: BA	тсн	Batch ID: 296	86				Analysis Da	te: <b>9/21/2</b>	020	SeqNo: 124	43506	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		5,340	100	5,000	518.3	96.4	50	150				
Sample ID: 200	09179-011CMS	SampType: MS			Units: µg/L		Prep Da	te: <b>9/16/2</b>	020	RunNo: 620	002	-
Client ID: BA	тсн	Batch ID: 296	86				Analysis Da	te: <b>9/21/2</b>	020	SeqNo: 124	43654	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		586	0.500	500.0	23.91	112	70	130				
Sample ID: 200	09179-011CMSD	SampType: <b>MS</b> l	)		Units: μg/L		Prep Da	te: <b>9/16/2</b>	020	RunNo: 619	939	
Client ID: BA	тсн	Batch ID: 296	86				Analysis Da	te: <b>9/21/2</b>	020	SeqNo: <b>12</b> 4	43507	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		5,370	100	5,000	518.3	97.0	50	150	5,339	0.544	30	

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Date: 9/25/2020



MILL E

Result

RL

Work Order: 2009198

Project:

Analyte

**QC SUMMARY REPORT** 

%RPD RPDLimit

Qual

**CLIENT:** Floyd | Snider

**Dissolved Metals by EPA Method 200.8** 

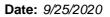
%REC LowLimit HighLimit RPD Ref Val

Sample ID: 2009179-011CMSD	SampType: <b>MSD</b>	Units: µg/L Prep Date:	9/16/2020	RunNo: <b>62002</b>
Client ID: BATCH	Batch ID: <b>29686</b>	Analysis Date:	9/21/2020	SeqNo: <b>1243655</b>

SPK value SPK Ref Val

Arsenic 574 0.500 500.0 23.91 110 70 130 585.7 1.95 30

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MILL E

**Work Order:** 2009198

Project:

## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Total Metals by EPA Method 200.8

Sample ID: <b>MB-29671</b>	SampType: MBLK			Units: µg/L		Prep Da	ite: <b>9/14/2</b> 0	020	RunNo: 618	350	
Client ID: MBLKW	Batch ID: 29671					Analysis Da	ite: 9/16/20	020	SeqNo: <b>12</b> 4	10858	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									

Sample ID: LCS-29671	SampType: LCS			Units: µg/L		Prep Da	te: <b>9/14/20</b>	20	RunNo: 618	350	
Client ID: LCSW	Batch ID: 29671					Analysis Da	te: <b>9/16/20</b>	20	SeqNo: <b>12</b> 4	10859	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	92.4	1.00	100.0	0	92.4	85	115				
Calcium	1,040	200	1,000	0	104	50	150				
Magnesium	942	100	1,000	0	94.2	50	150				
Potassium	975	200	1,000	0	97.5	50	150				
Sodium	1,050	200	1,000	0	105	50	150				

Sample ID: 2009196-001DDUP	SampType: <b>DUP</b>		Units: µg/L	Prep Date: 9/14/2020	RunNo: <b>61850</b>
Client ID: BATCH	Batch ID: 29671			Analysis Date: 9/16/2020	SeqNo: <b>1240861</b>
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Arsenic	ND	1.00		1.050	50.9 30
Calcium	36,600	200		36,210	1.04 30 E
Magnesium	31,500	100		32,530	3.34 30 E
Potassium	3,170	200		2,973	6.36 30
Sodium	22,900	200		22,710	0.946 30

NOTES:

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E - Estimated value. The amount exceeds the linear working range of the instrument.

Date: 9/25/2020



MILL E

Work Order: 2009198

## **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

**Total Metals by EPA Method 200.8** 

Potob ID: 20074	Units: μg/L				Prep Da	te: <b>9/14/20</b>	20	RunNo: <b>618</b>		
Batch ID: 29671					Analysis Da	te: <b>9/16/20</b>	20	SeqNo: <b>124</b>	0862	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
486	1.00	500.0	1.050	97.0	70	130				
43,600	200	5,000	36,210	149	50	150				Ε
38,700	100	5,000	32,530	123	70	130				Ε
8,310	200	5,000	2,973	107	50	150				
30,500	200	5,000	22,710	155	50	150				ES
	486 43,600 38,700 8,310	486 1.00 43,600 200 38,700 100 8,310 200	486 1.00 500.0 43,600 200 5,000 38,700 100 5,000 8,310 200 5,000	486 1.00 500.0 1.050 43,600 200 5,000 36,210 38,700 100 5,000 32,530 8,310 200 5,000 2,973	486     1.00     500.0     1.050     97.0       43,600     200     5,000     36,210     149       38,700     100     5,000     32,530     123       8,310     200     5,000     2,973     107	486     1.00     500.0     1.050     97.0     70       43,600     200     5,000     36,210     149     50       38,700     100     5,000     32,530     123     70       8,310     200     5,000     2,973     107     50	486 1.00 500.0 1.050 97.0 70 130 43,600 200 5,000 36,210 149 50 150 38,700 100 5,000 32,530 123 70 130 8,310 200 5,000 2,973 107 50 150	486 1.00 500.0 1.050 97.0 70 130 43,600 200 5,000 36,210 149 50 150 38,700 100 5,000 32,530 123 70 130 8,310 200 5,000 2,973 107 50 150	486 1.00 500.0 1.050 97.0 70 130 43,600 200 5,000 36,210 149 50 150 38,700 100 5,000 32,530 123 70 130 8,310 200 5,000 2,973 107 50 150	486 1.00 500.0 1.050 97.0 70 130 43,600 200 5,000 36,210 149 50 150 38,700 100 5,000 32,530 123 70 130 8,310 200 5,000 2,973 107 50 150

#### NOTES:

Project:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009196-001DMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>9/14/2</b> 0	)20	RunNo: 61850			
Client ID: BATCH	Batch ID: 29671					Analysis Da	te: <b>9/16/20</b>	)20	SeqNo: <b>12</b> 4	10863		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic	500	1.00	500.0	1.050	99.8	70	130	486.0	2.87	30		
Calcium	40,000	200	5,000	36,210	74.8	50	150	43,640	8.83	30	Е	
Magnesium	38,200	100	5,000	32,530	114	70	130	38,690	1.16	30	E	
Potassium	7,970	200	5,000	2,973	100	50	150	8,306	4.07	30		
Sodium	26,300	200	5,000	22,710	71.5	50	150	30,460	14.7	30	E	

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

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S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.



## Sample Log-In Check List

С	lient Name:	FS		Work O	rder Numb	per: <b>2009198</b>		
Lo	ogged by:	Carissa True		Date Re	ceived:	9/14/2020	10:48:00 AM	
Cha	in of Cust	ody						
1.	Is Chain of C	ustody complete?		Yes	<b>✓</b>	No $\square$	Not Present	
2.	How was the	sample delivered?		Clien	<u>nt</u>			
Log	<u>ı In</u>							
3.	Coolers are p	present?		Yes	✓	No 🗌	NA 🗆	
4.	Shipping con	tainer/cooler in good condition	?	Yes	<b>✓</b>	No $\square$		
5.		ls present on shipping contain nments for Custody Seals not		Yes	✓	No 🗌	Not Present	
6.	Was an atter	npt made to cool the samples	?	Yes	✓	No 🗌	na 🗆	
7.	Were all item	as received at a temperature o	f >2°C to 6°C *	Yes	✓	No 🗌	NA 🗆	
8.	Sample(s) in	proper container(s)?		Yes	✓	No 🗆		
9.	Sufficient sar	mple volume for indicated test	(s)?	Yes	<b>✓</b>	No 🗌		
10.	Are samples	properly preserved?		Yes	✓	No 🗌		
11.	Was preserv	ative added to bottles?		Yes		No 🗸	NA $\square$	
12.	Is there head	space in the VOA vials?		Yes		No 🗌	NA 🗸	
13.	Did all sampl	es containers arrive in good c	ondition(unbroken)	? Yes	✓	No $\square$		
14.	Does paperw	ork match bottle labels?		Yes	✓	No 🗌		
15	Are matrices	correctly identified on Chain of	f Custody?	Yes	<b>✓</b>	No 🗌		
		at analyses were requested?		Yes	✓	No 🗌		
17.	Were all hold	ling times able to be met?		Yes	<b>✓</b>	No 🗌		
Sne	cial Handl	ing (if applicable)						
_		otified of all discrepancies with	this order?	Yes		No 🗌	NA 🗸	
		Notified:		ate:				
	By Who		Vi	je.	il 🗌 Ph	one  Fax [	In Person	
	Regardi							
	-	nstructions:						
19.	Additional re	marks:						
<u>ltem</u>	<u>Information</u>							
		Item #	Temp °C					
	Sample 1		2.4					

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Relinquished  Relinquished  Date/Time  Date/Time	I represent that I am authorized to enter into this Agreement with each of the terms on the front and backside of this Agreement.	e) (Nitrite) (Chloride) (Sulfate)	*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water,  **Metals (Circle): MTCA-S RCBA-8 Priority Pollutants TAL Individual: As Al As B Ba Be Ca Cd	10	io io	foo	7	6	ν.	A	w.	2	1 MW-096-091420 9-14-20 0850 GW	Sample Sample Type Sample Name  Sample Name  Sample Name  Sample Name  Sample Name  Sample Name	tole-1807-201	Telephone: 206-292-2578	CITY, SEATTLE, WA 98101	Address (60) WICN ST, STE 600	Client: FLEYD) SNIDER	Amaly/iraa	Seattle, WA 98103 Tel: 206-352-3790	3
Received Audio Date/Time	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	Q-Phosphate Fluoride Nitrate+Nitrite	Co Cr Cu Fe Hg K Mg Mn Mo Na Ni											SQS (CON BOOK ON THE PROPERTY OF THE PROPERTY	PM Email: LYNN. (30CHALA @ FLCYDSN	REPORTO (PM): LYNN CROCKE	Location:	Collected by: NAPAC JUSAYAW	Project No:	t Name: MICO 6	Date: 9-14-26 Page: 1 of: 1	Chain of Custody Record & Lab
1 Next Day  Same Day	have verified Client's agreement to		SW = Storm Water, WW = Waste Water  Pb Sb Se Sr Sn Ti Ti U V Zn										X	Comments	DER COM	Sample Disposal: Return to client Spisposal by lab (after 30 days)	Fe, As, Mn		a, Ma, Ky Na	Special Remarks:	Laboratory Project No (Internal): 2009 198	Laboratory Services Agreement

COC 1.2 - 2.22.17



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: MILL E

Work Order Number: 2009226

September 25, 2020

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 1 sample(s) on 9/15/2020 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Dissolved Organic Carbon by SM 5310C
Ion Chromatography by EPA Method 300.0
Sulfide by SM 4500-S2-F
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

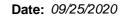
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910





CLIENT: Floyd | Snider Work Order Sample Summary

Project: MILL E Work Order: 2009226

Lab Sample ID Client Sample ID Date/Time Collected Date/Time Received

2009226-001 PZ-2B-091520 09/15/2020 4:10 PM 09/15/2020 5:29 PM



### **Case Narrative**

WO#: **2009226**Date: **9/25/2020** 

CLIENT: Floyd | Snider

Project: MILL E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



## **Qualifiers & Acronyms**

WO#: **2009226** 

Date Reported: 9/25/2020

### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

HEM - Hexane Extractable Material

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



# **Analytical Report**

Work Order: **2009226**Date Reported: **9/25/2020** 

Client: Floyd | Snider Collection Date: 9/15/2020 4:10:00 PM

Project: MILL E

Lab ID: 2009226-001 Matrix: Groundwater

Client Sample ID: PZ-2B-091520

Analyses	Result	RL	Qual	Units	DF	Da	te Analyzed
lon Chromatography by EPA I	Method 300.0			Bato	h ID: 2	29702	Analyst: SS
Chloride	11.4	0.500	D	mg/L	5	9/17	'2020 12:22:00 PM
Nitrite (as N)	ND	0.200	D	mg/L	2		2020 8:39:00 PM
Bromide	ND	0.800	D	mg/L	2		2020 8:39:00 PM
Nitrate (as N)	ND	0.200	D	mg/L	2		2020 8:39:00 PM
Ortho-Phosphate (as P)	ND	0.400	D	mg/L	2	9/16/	2020 8:39:00 PM
Sulfate	29.0	0.600	D	mg/L	2	9/16/	2020 8:39:00 PM
<b>NOTES:</b> Diluted due to matrix.				J			
Dissolved Metals by EPA Met	hod 200.8			Bato	h ID: 2	29708	Analyst: CO
Arsenic	127	0.500		μg/L	1	9/17/	2020 10:50:39 PM
Iron	464	100		μg/L	1	9/22	2020 11:43:20 AM
Manganese	27.3	2.00		μg/L	1	9/17	2020 10:50:39 PM
Total Metals by EPA Method	200.8			Bato	h ID: 2	29710	Analyst: CO
Arsenic	140	1.00		μg/L	1	9/18/	2020 7:43:31 PM
Calcium	59,600	2,000	D	μg/L	10	9/21/	2020 12:07:37 PM
Magnesium	8,630	100		μg/L	1	9/18/	2020 7:43:31 PM
Potassium	2,930	200		μg/L	1	9/18/	2020 7:43:31 PM
Sodium	8,740	200		μg/L	1	9/18/	'2020 7:43:31 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID: F	R62123	Analyst: SS
Organic Carbon, Dissolved	10.8	0.500		mg/L	1	9/25	2020 5:29:00 AM
Total Organic Carbon by SM 5	5310C			Bato	h ID: F	R61982	Analyst: SS
Total Organic Carbon NOTES:	9.36	0.500	В	mg/L	1	9/18/	2020 9:24:00 PM
B - Detection in sample is 10x greate	r than detection in Meth	od Blank. No	further action	on required.			
Total Alkalinity by SM 2320B				Bato	h ID: F	R62122	Analyst: WF
Alkalinity, Total (As CaCO3)	157	2.50		mg/L	1	9/25	2020 10:37:57 AM



## **Analytical Report**

Work Order: **2009226**Date Reported: **9/25/2020** 

Client: Floyd | Snider Collection Date: 9/15/2020 4:10:00 PM

Project: MILL E

Lab ID: 2009226-001 Matrix: Groundwater

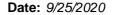
Client Sample ID: PZ-2B-091520

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R61956
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 9/18/2020 11:15:00 AM

Original





Floyd | Snider

Project: MILL E

CLIENT:

### **QC SUMMARY REPORT**

**Total Alkalinity by SM 2320B** 

Sample ID: MB-R62122 SampType: MBLK Units: mg/L Prep Date: 9/25/2020 RunNo: 62122

Client ID: MBLKW Batch ID: R62122 Analysis Date: 9/25/2020 SeqNo: 1246203

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Alkalinity, Total (As CaCO3) ND 2.50

Sample ID: LCS-R62122 SampType: LCS Units: mg/L Prep Date: 9/25/2020 RunNo: 62122

Client ID: LCSW Batch ID: R62122 Analysis Date: 9/25/2020 SeqNo: 1246204

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Alkalinity, Total (As CaCO3) 100 2.50 100.0 0 100 99.6 108

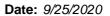
Sample ID: 2009193-007ADUP SampType: DUP Units: mg/L Prep Date: 9/25/2020 RunNo: 62122

Client ID: BATCH Batch ID: R62122 Analysis Date: 9/25/2020 SeqNo: 1246206

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Alkalinity, Total (As CaCO3) 421 2.50 426.3 1.16 20

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

## **Dissolved Organic Carbon by SM 5310C**

Project: MILL E							DISS	olved Orga	anic Carbo	on by SIVI	5310C
Sample ID: MB-R62123	SampType: MBLK			Units: mg/L		Prep Date:	9/24/202	20	RunNo: 621	123	
Client ID: MBLKW	Batch ID: R62123					Analysis Date:	9/24/202	20	SeqNo: 124	<del>1</del> 6218	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	ND	0.500									
Sample ID: LCS-R62123	SampType: <b>LCS</b>			Units: mg/L		Prep Date:	9/24/202	20	RunNo: 621	123	
Client ID: LCSW	Batch ID: R62123					Analysis Date:	9/24/202	20	SeqNo: 124	<del>1</del> 6219	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	5.00	0.500	5.000	0	99.9	94.4	109				
Sample ID: <b>2009193-003DDUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Date:	9/24/202	20	RunNo: 621	123	
Client ID: BATCH	Batch ID: R62123					Analysis Date:	9/24/202	20	SeqNo: <b>12</b> 4	16223	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	7.28	0.500						7.262	0.289	20	
Sample ID: <b>2009193-003DMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Date:	9/24/20	20	RunNo: 621	123	
Client ID: BATCH	Batch ID: R62123					Analysis Date:	9/24/202	20	SeqNo: 124	16224	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	12.0	0.500	5.000	7.262	94.9	80.9	124				
Sample ID: <b>2009193-003DMSD</b>	SampType: <b>MSD</b>			Units: mg/L		Prep Date:	9/24/202	20	RunNo: 621	123	
Client ID: BATCH	Batch ID: R62123					Analysis Date:	9/24/202	20	SeqNo: 124	16225	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	11.8	0.500	5.000	7.262	91.2	80.9	124	12.01	1.55	30	

Original Page 8 of 22

**Date:** 9/25/2020



Work Order: 2009226

## **QC SUMMARY REPORT**

**Dissolved Organic Carbon by SM 5310C** 

CLIENT: Floyd | Snider

Project: MILL E

Sample ID: 2009226-001DDUP SampType: DUP Units: mg/L Prep Date: 9/25/2020 RunNo: 62123

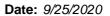
Client ID: **PZ-2B-091520** Batch ID: **R62123** Analysis Date: **9/25/2020** SeqNo: **1246244** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

 Organic Carbon, Dissolved
 10.5
 0.500
 10.75
 2.02
 20

Sample ID: 2009226-001DMS SampType: MS Units: mg/L Prep Date: 9/25/2020 RunNo: 62123 Client ID: **PZ-2B-091520** Batch ID: R62123 Analysis Date: 9/25/2020 SeqNo: 1246245 LowLimit HighLimit RPD Ref Val Result RL SPK value SPK Ref Val %REC %RPD RPDLimit Qual Analyte Organic Carbon, Dissolved 15.5 0.500 10.75 80.9 124 5.000 95.8

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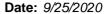


## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: MILL E	101						Ion Ch	romatogra	ohy by EP	A Method	.008 b
Sample ID: <b>MB-29702</b>	SampType: <b>MBLK</b>			Units: mg/L		Prep Dat	e: <b>9/16/2</b> 0	020	RunNo: 619	936	
Client ID: MBLKW	Batch ID: 29702					Analysis Dat	te: <b>9/16/2</b> 0	020	SeqNo: <b>12</b> 4	12171	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Bromide	ND	0.400									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.200									
Sulfate	ND	0.300									
Sample ID: LCS-29702	SampType: <b>LCS</b>			Units: mg/L		Prep Dat	e: <b>9/16/2</b> 0	020	RunNo: 619	936	
Client ID: LCSW	Batch ID: 29702					Analysis Dat	te: <b>9/16/2</b> 0	020	SeqNo: 124	12172	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.717	0.100	0.7500	0	95.6	90	110				
Nitrite (as N)	0.735	0.100	0.7500	0	98.0	90	110				
Bromide	2.40	0.400	2.500	0	96.1	90	110				
Nitrate (as N)	0.719	0.100	0.7500	0	95.9	90	110				
Ortho-Phosphate (as P)	1.28	0.200	1.250	0	102	90	110				
Sulfate	3.58	0.300	3.750	0	95.5	90	110				
Sample ID: <b>2009204-001ADUP</b>	SampType: <b>DUP</b>			Units: mg/L		Prep Dat	e: <b>9/16/2</b> 0	020	RunNo: 619	936	
Client ID: BATCH	Batch ID: 29702					Analysis Dat	te: <b>9/16/2</b> 0	020	SeqNo: 124	12174	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	367	1.00						367.2	0.136	20	DE
Nitrite (as N)	ND	1.00						0		20	DH
Bromide	ND	4.00						0		20	D
Nitrate (as N)	ND	1.00						0		20	DH
Ortho-Phosphate (as P)	ND	2.00						0		20	DH
Sulfate	35.4	3.00						35.48	0.141	20	D

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**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider

Ion Chromatography by EPA Method 300.0

Project: MILL E

SampType: **DUP** 

Units: mg/L

Prep Date: 9/16/2020

RunNo: 61936

Sample ID: 2009204-001ADUP

Result

RL

Analysis Date: 9/16/2020

SeqNo: 1242174

Client ID: BATCH

Batch ID: 29702

SPK value SPK Ref Val

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit

Qual

NOTES:

Analyte

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009204-001AMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/16/2020</b>	RunNo: <b>61936</b>		
Client ID: BATCH	Batch ID: 29702					Analysis Da	te: <b>9/16/2020</b>	SeqNo: <b>1242175</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual	
Chloride	373	1.00	7.500	367.2	72.1	80	120		DES	
Nitrite (as N)	7.31	1.00	7.500	0	97.5	80	120		DH	
Bromide	25.1	4.00	25.00	3.430	86.6	80	120		D	
Nitrate (as N)	7.16	1.00	7.500	0	95.5	80	120		DH	
Ortho-Phosphate (as P)	12.0	2.00	12.50	0	95.9	80	120		DH	
Sulfate	74.0	3.00	37.50	35.48	103	80	120		D	

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2009204-001AMSD	SampType: MSD			Units: mg/L		•	te: 9/16/20		RunNo: <b>61936</b> SegNo: <b>1242176</b>		
Client ID: BATCH	Batch ID: <b>29702</b>					Analysis Da	te: <b>9/16/2</b> 0	20	SeqNo: 124	42176	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	372	1.00	7.500	367.2	61.9	80	120	372.7	0.207	20	DES
Nitrite (as N)	7.30	1.00	7.500	0	97.3	80	120	7.310	0.137	20	DH
Bromide	25.1	4.00	25.00	3.430	86.5	80	120	25.07	0.0399	20	D
Nitrate (as N)	7.16	1.00	7.500	0	95.5	80	120	7.160	0	20	DH
Ortho-Phosphate (as P)	13.6	2.00	12.50	0	109	80	120	11.99	12.9	20	DH
Sulfate	74.1	3.00	37.50	35.48	103	80	120	74.00	0.149	20	D

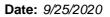
#### NOTES:

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S - Analyte concentration was too high for accurate spike recovery(ies).

S - Analyte concentration was too high for accurate spike recovery(ies).

E - Estimated value. The amount exceeds the linear working range of the instrument.





MILL E

Work Order: 2009226

Project:

## **QC SUMMARY REPORT**

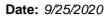
**CLIENT:** Floyd | Snider

Ion Chromatography by EPA Method 300.0

Sample ID: 2009237-001BDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Dat	te: <b>9/16/2</b> 0	20	RunNo: 619	936	
Client ID: BATCH	Batch ID: 29702					Analysis Dat	te: <b>9/16/2</b> 0	20	SeqNo: 124	42185	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	122	10.0						148.2	19.1	20	D
Nitrite (as N)	ND	10.0						0		20	D
Bromide	ND	40.0						0		20	D
Nitrate (as N)	ND	10.0						0		20	D
Ortho-Phosphate (as P)	ND	20.0						0		20	D
Sulfate	47.0	30.0						50.40	6.98	20	D

Sample ID: 2009237-001BMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>9/16/20</b>	20	RunNo: 619	936	
Client ID: BATCH	Batch ID: 29702					Analysis Da	te: <b>9/17/20</b>	20	SeqNo: <b>12</b> 4	<b>12186</b>	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	233	10.0	75.00	148.2	113	80	120				D
Nitrite (as N)	71.8	10.0	75.00	0	95.7	80	120				D
Bromide	240	40.0	250.0	0	95.9	80	120				D
Nitrate (as N)	73.2	10.0	75.00	7.400	87.7	80	120				D
Ortho-Phosphate (as P)	128	20.0	125.0	0	102	80	120				D
Sulfate	385	30.0	375.0	50.40	89.3	80	120				D

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**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Cultide by CM 4500 C2 E

Project:	MILL E										Sulfide b	y SM 450	0-S2-F
Sample ID: MB-R	61956	SampType	MBLK			Units: mg/L		Prep Dat	te: <b>9/18/2</b> 0	)20	RunNo: 61	956	
Client ID: MBLK	W	Batch ID:	R61956					Analysis Dat	te: <b>9/18/20</b>	)20	SeqNo: <b>12</b> 4	42571	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			ND	0.500									
Sample ID: LCS-R	R61956	SampType	: LCS			Units: mg/L		Prep Dat	te: <b>9/18/2</b> 0	)20	RunNo: 61	956	
Client ID: LCSW	I	Batch ID:	R61956					Analysis Dat	te: <b>9/18/2</b> 0	)20	SeqNo: 124	42572	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			1.60	0.500	2.000	0	80.0	74.9	118				
Sample ID: <b>20091</b>	93-006FDUP	SampType	: DUP			Units: mg/L	Prep Date: 9/18/2020			RunNo: <b>61956</b>			
Client ID: BATC	Н	Batch ID:	R61956				Analysis Date: 9/18/2020			SeqNo: <b>1242574</b>			
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		(	0.600	0.500						0.8000	28.6	30	
Sample ID: <b>20091</b>	98-001FDUP	SampType	: DUP			Units: mg/L		Prep Dat	te: <b>9/18/20</b>	)20	RunNo: <b>61956</b>		
Client ID: BATC	Н	Batch ID:	R61956					Analysis Dat	te: <b>9/18/2</b> 0	)20	SeqNo: 124	42584	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			ND	0.500						0.6000	40.0	30	
Sample ID: <b>20091</b>	98-001FMS	SampType	: MS			Units: mg/L	Prep Date: 9/18/2020			RunNo: <b>61956</b>			
Client ID: BATC	н	Batch ID:	R61956				Analysis Date: 9/18/2020			SeqNo: 124	42585		
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide NOTES:			3.20	0.500	2.000	0.6000	130	74.9	118				S

S - Outlying spike recovery(ies) observed.

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Date: 9/25/2020



MILL E

**Work Order:** 2009226

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

Sulfide by SM 4500-S2-F

Sample ID: 2009198-001FMSD SampType: MSD			Units: <b>mg/L</b>			Prep Da	te: <b>9/18/20</b>	RunNo: <b>61956</b>			
Client ID: BATCH	Batch ID: <b>R61956</b>					Analysis Da	te: <b>9/18/20</b>	20	SeqNo: <b>12</b> 4	12586	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	2.00	0.500	2.000	0.6000	70.0	74.9	118	3.200	46.2	30	RS

#### NOTES:

Project:

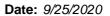
SR - Outlying spike recovery(ies) and high RPD due to suspected sample inhomogeneity. The method is in control as indicated by the LCS.

Sample ID: 2009226-001FMS SampType: MS			Units: mg/L			Prep Da	te: <b>9/18/20</b>	RunNo: <b>61956</b>			
Client ID: <b>PZ-2B-091520</b>	Batch ID: R61956					Analysis Da	te: <b>9/18/20</b>	20	SeqNo: <b>124</b>	12589	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	6.00	0.500	2.000	0.4000	280	74.9	118				S

#### NOTES:

S - Outlying spike recovery(ies) observed.

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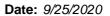
**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Organic Carbon by SM 5310C** 

Project: MILL E								Total Orga	anic Carbo	on by Sivi	53100	
Sample ID: MB-R61982	SampType: <b>MBLK</b>			Units: mg/L		Prep Dat	e: <b>9/18/2</b> 0	)20	RunNo: 61	982		
Client ID: MBLKW	Batch ID: <b>R61982</b>					Analysis Dat	e: <b>9/18/2</b> 0	)20	SeqNo: 12	43205		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon	0.545	0.500										
Sample ID: LCS-R61982	SampType: <b>LCS</b>			Units: mg/L		Prep Dat	e: <b>9/18/2</b> 0	)20	RunNo: 61	982		
Client ID: LCSW	Batch ID: <b>R61982</b>					Analysis Dat	e: <b>9/18/2</b> 0	)20	SeqNo: 12	43206		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon	5.28	0.500	5.000	0	106	90	118				В	
ample ID: 2009226-001EDUP SampType: DUP				Units: mg/L	Prep Date: <b>9/18/2020</b>				RunNo: <b>61982</b>			
Client ID: <b>PZ-2B-091520</b>	Batch ID: <b>R61982</b>				Analysis Date: 9/18/2020			SeqNo: <b>1243208</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon	9.38	0.500						9.357	0.267	20	В	
Sample ID: <b>2009226-001EMS</b>	SampType: <b>MS</b>			Units: mg/L		Prep Dat	e: <b>9/18/2</b> 0	)20	RunNo: 61	982		
Client ID: <b>PZ-2B-091520</b>	Batch ID: <b>R61982</b>					Analysis Dat	te: <b>9/18/2</b> 0	020	SeqNo: 12	43209		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon	14.3	0.500	5.000	9.357	98.1	80.9	124				В	
Sample ID: <b>2009226-001EMSD</b>	SampType: <b>MSD</b>			Units: mg/L		Prep Dat	e: <b>9/18/2</b> 0	)20	RunNo: 61	982		
Client ID: <b>PZ-2B-091520</b>	Batch ID: R61982				Analysis Date: 9/18/2020			SeqNo: <b>1243210</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Total Organic Carbon	14.0	0.500	5.000	9.357	92.5	80.9	124	14.26	2.01	30	В	

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## **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

## **Dissolved Metals by EPA Method 200.8**

Project: MILL E							Diss	olved Met	tals by EP	A Method	d 200
Sample ID: <b>MB-29708</b>	SampType: MBLK			Units: µg/L		Prep Date	e: <b>9/17/202</b> 0	0	RunNo: 619	935	
Client ID: MBLKW	Batch ID: 29708					Analysis Date	e: <b>9/17/202</b> 0	0	SeqNo: <b>12</b> 4	12140	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.500									
Iron	ND	100									
Manganese	ND	2.00									
Sample ID: LCS-29708	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>9/17/202</b> 0	0	RunNo: 619	935	
Client ID: LCSW	Batch ID: 29708				Analysis Date: 9/17/2020			0	SeqNo: <b>1242141</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.3	0.500	100.0	0	94.3	85	115				
Iron	1,050	100	1,000	0	105	50	150				
Manganese	98.4	2.00	100.0	0	98.4	85	115				
Sample ID: <b>2009193-003CDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>9/17/202</b> 0	0	RunNo: 619	935	
Client ID: BATCH	Batch ID: 29708					Analysis Date	e: <b>9/17/202</b> 0	0	SeqNo: <b>1242143</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	262	0.500						262.4	0.0303	30	
Iron	31,700	100						32,030	1.15	30	
Manganese	1,300	2.00						1,313	1.32	30	
Sample ID: <b>2009193-003CMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	e: <b>9/17/202</b> 0	0	RunNo: 619	935	
Client ID: BATCH	Batch ID: 29708				Analysis Date: 9/17/2020		0	SeqNo: <b>12</b> 4	12144		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	786	0.500	500.0	262.4	105	70	130				
Iron	36,000	100	5,000	32,030	79.3	50	150				
Manganese	1,890	2.00	500.0	1,313	115	70	130				

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Date: 9/25/2020



MILL E

**Work Order:** 2009226

Project:

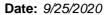
#### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

#### **Dissolved Metals by EPA Method 200.8**

Sample ID: 2009193-003CMSD	Units: µg/L				Prep Da	te: <b>9/17/2</b> 0	)20	RunNo: 619	935			
Client ID: BATCH	Batch ID: 29708		Analysis Date: 9/17/2020							SeqNo: <b>1242145</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic	773	0.500	500.0	262.4	102	70	130	786.4	1.67	30		
Iron	35,900	100	5,000	32,030	77.9	50	150	36,000	0.193	30		
Manganese	1,830	2.00	500.0	1,313	103	70	130	1,890	3.44	30		

Original Page 17 of 22





Work Order: 2009226

Magnesium

5,230

100

5,000

#### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

**Total Metals by EPA Method 200.8** 

Project: MILL E	do.							Total Met	als by EP	A Method	d 200.8
Sample ID: <b>MB-29710</b>	SampType: <b>MBLK</b>			Units: µg/L		Prep Dat	e: <b>9/17/2</b> 0	20	RunNo: 619	947	
Client ID: MBLKW	Batch ID: 29710					Analysis Dat	e: <b>9/18/2</b> 0	20	SeqNo: 124	12408	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									
Sample ID: <b>LCS-29710</b>	SampType: <b>LCS</b>			Units: µg/L		Prep Dat	e: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: LCSW	Batch ID: 29710					Analysis Dat	e: <b>9/18/2</b> 0	20	SeqNo: 124	12409	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	1.00	100.0	0	101	85	115				
Magnesium	1,080	100	1,000	0	108	50	150				
Potassium	1,100	200	1,000	0	110	50	150				
Sodium	1,080	200	1,000	0	108	50	150				
Sample ID: <b>2009203-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	e: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: BATCH	Batch ID: 29710					Analysis Dat	e: <b>9/18/20</b>	20	SeqNo: 124	12411	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	477	1.00						476.2	0.237	30	
Magnesium	153	100						168.5	9.40	30	
Potassium	ND	200						0		30	
Sodium	483	200						476.0	1.48	30	
Sample ID: <b>2009203-001AMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Dat	e: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: BATCH	Batch ID: 29710					Analysis Dat	e: <b>9/18/20</b>	20	SeqNo: 124	12412	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	961	1.00	500.0	476.2	96.9	70	130				

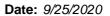
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168.5

101

70

130





Work Order: 2009226

Calcium

788

200

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Metals by EPA Method 200.8** 

24.1

618.0

30

Project: MILL E								Total Met	als by EP	A Method	200.8
Sample ID: 2009203-001AMS	SampType: <b>MS</b>			Units: µg/L		Prep Dat	te: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: BATCH	Batch ID: 29710					Analysis Dat	te: <b>9/18/20</b>	20	SeqNo: 124	42412	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	5,510	200	5,000	82.80	109	50	150				
Sodium	5,930	200	5,000	476.0	109	50	150				
Sample ID: 2009203-001AMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Dat	te: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: BATCH	Batch ID: 29710					Analysis Dat	te: <b>9/18/20</b>	20	SeqNo: 124	42413	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	983	1.00	500.0	476.2	101	70	130	960.9	2.26	30	
Magnesium	5,530	100	5,000	168.5	107	70	130	5,227	5.71	30	
Potassium	5,470	200	5,000	82.80	108	50	150	5,513	0.863	30	
Sodium	5,940	200	5,000	476.0	109	50	150	5,925	0.211	30	
Sample ID: LCS-29710	SampType: <b>LCS</b>			Units: µg/L		Prep Dat	te: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: LCSW	Batch ID: 29710					Analysis Dat	te: <b>9/21/20</b>	20	SeqNo: 124	43003	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1,260	200	1,000	0	126	50	150				
Sample ID: <b>2009203-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Dat	te: <b>9/17/20</b>	20	RunNo: 619	947	
Client ID: BATCH	Batch ID: 29710					Analysis Dat	te: <b>9/21/20</b>	20	SeqNo: 124	43005	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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**Date:** 9/25/2020



MILL E

**Work Order:** 2009226

Project:

**QC SUMMARY REPORT** 

**CLIENT:** Floyd | Snider

**Total Metals by EPA Method 200.8** 

Sample ID: 2009203-001AMS SampType: MS	Units: μg/L	Prep Date: 9/17/2020	RunNo: <b>61947</b>
--	-------------	----------------------	---------------------

Client ID: **BATCH** Batch ID: **29710** Analysis Date: **9/21/2020** SeqNo: **1243006** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Calcium 6,410 200 5,000 618.0 116 50 150

Sample ID: 2009203-001AMSD SampType: MSD Units: µg/L Prep Date: 9/17/2020 RunNo: 61947 Analysis Date: 9/21/2020 Client ID: **BATCH** Batch ID: 29710 SeqNo: 1243007 LowLimit HighLimit RPD Ref Val Result RL SPK value SPK Ref Val %REC %RPD RPDLimit Qual Analyte 50 30 6,040 150 5.89 Calcium 200 5,000 618.0 108 6,407

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#### Sample Log-In Check List

С	lient Name:	FS		Work O	rder N	umber: <b>200922</b>	ŝ	
Lo	ogged by:	Gabrielle Coeuille		Date Re	eceive	d: <b>9/15/20</b> 2	20 5:29:00 PM	
Cha	in of Cust	<u>ody</u>						
1.	Is Chain of C	ustody complete?		Yes	<b>✓</b>	No 🗌	Not Present	
2.	How was the	sample delivered?		Clien	<u>nt</u>			
<u>Log</u>	ı İn							
_	Coolers are p	present?		Yes	<b>✓</b>	No 🗌	NA 🗆	
0.	•							
4.	Shipping con	tainer/cooler in good	condition?	Yes	<b>✓</b>	No 🗌		
5.		ls present on shipping nments for Custody S		Yes	✓	No 🗌	Not Present	
6.	Was an atten	npt made to cool the	samples?	Yes	✓	No 🗌	NA $\square$	
7.	Were all item	s received at a tempe	erature of >2°C to 6°C	* Yes	<b>✓</b>	No 🗆	NA 🗆	
8.	Sample(s) in	proper container(s)?		Yes	<b>✓</b>	No 🗆		
•		nple volume for indica	ated test(s)?	Yes	<b>✓</b>	No 🗆		
_		properly preserved?		Yes	<b>✓</b>	No 🗌		
		ative added to bottles	?	Yes	<b>✓</b>	No 🗌	NA $\square$	
					_		NaOH, Zn Acetate	
		space in the VOA via		Yes		No 🗌	NA 🗸	
13.	Did all sampl	es containers arrive ir	n good condition(unbroker	n)? Yes	<b>✓</b>	No 📙		
14.	Does paperw	ork match bottle labe	s?	Yes	✓	No L		
15.	Are matrices	correctly identified on	Chain of Custody?	Yes	<b>✓</b>	No 🗌		
		at analyses were requ		Yes	<b>✓</b>	No 🗌		
17.	Were all hold	ling times able to be n	net?	Yes	✓	No 🗌		
C		: /:f !:						
_		ing (if applicable						
18.	was client no	otified of all discrepan	cies with this order?	Yes		No 🗌	NA L	7
	Person	Notified: Mark Jus	savan	Date:		9/16/2020		
	By Who	m: Gabrielle	e Coeuille	Via: <b>✓</b> eMa	ıil 🗌	Phone  Fax	☐ In Person	
	Regardi		lables sav sampled on 9/	11, COC says 9	9/15			
	Client Ir	nstructions: 9/15 is c	orrect sample date.					
19.	Additional rer	marks:						
<u>Item</u>	<u>Information</u>							
		Item #	Temp °C					

5.8

Sample 1

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

X X X X X X X X X X X X X X X X X X X	1-15-70/1620 x Received x	ent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named abo the terms on the front and backside of this Agreement.	Anions (Circle): (Nitrate (Nitrate Chloride ) Sulfate ) Fromide (O-Phosphate ) Fluoride Nitrate+Nitrite	RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn	ous, B=Bulk, O=Other, P=Product, S=Soil, SD=Sediment, SL=Soild, W=Water, DW=Drinking Water,	10	00	6	US .	•		12 017 12 0 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample Name  Sample Sample Type  Sample Name	FAX: PMEmail: LYNN, CFOC) +4 PC FU	5	Location: ENESCETT	Address: COL UNION ST TO BOO Collected by WARK JUSAYANJ		Project Name: MILL P	Tel: 206-352-3790 Date: 4-15-20 Page: (	Chain of Custody Record
Necessary Date/Time	Received X	nt with Fremont Analytical on behalf of the Client named above and that I have ent.	Fromide (O-Phosphate) Fluoride Nitrate+Nitrite	B Ba Be Ca Cd Co Cr Cu Fe Hg K	ll, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water,							4		リングへいかいましまして チレジャーション	REPORT TO (PM): LYN IV COROCHALA	Location: ENESCETT	collected by: NARK		Project Name: MILL P	Date: 4-15-20 Page: ( of: )	Chain of Custody Record &
Same Day Irracits	62 th 10	verified Client's agreement to 3 Day	_	Sr Sn Ti Ti U V Zn	Water, WW = Waste Water Turn-ground Time:							Partennion	Comments	ER CARL STO	Sample Disposal: Return to client Sposal by lab (after 30 days)		16, 12, 190	DISS MEDICS: FOR A MA	Special Remarks:	Laboratory Project No (internal): PUGF PUGG	Laboratory Services Agreement

COC 1.2 - 2.22.17



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

RE: Weyer Mill E

Work Order Number: 2103037

March 15, 2021

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 17 sample(s) on 3/2/2021 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Dissolved Organic Carbon by SM 5310C
Ion Chromatography by EPA Method 300.0
Sulfide by SM 4500-S2-F
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 03/15/2021



CLIENT: Floyd | Snider Work Order Sample Summary

Project: Weyer Mill E Work Order: 2103037

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2103037-001	MW-09S-030121	03/01/2021 9:55 AM	03/02/2021 3:10 PM
2103037-002	PZ-1B-030121	03/01/2021 10:05 AM	03/02/2021 3:10 PM
2103037-003	MW-10D-030121	03/01/2021 11:10 AM	03/02/2021 3:10 PM
2103037-004	MW-09D-030121	03/01/2021 11:25 AM	03/02/2021 3:10 PM
2103037-005	LL MW-19D-030121	03/01/2021 12:30 PM	03/02/2021 3:10 PM
2103037-006	LL MW-20D-030121	03/01/2021 1:00 PM	03/02/2021 3:10 PM
2103037-007	PZ-2D-030121	03/01/2021 1:55 PM	03/02/2021 3:10 PM
2103037-008	PZ-3B-030121	03/01/2021 1:44 PM	03/02/2021 3:10 PM
2103037-009	PZ-2B-030121	03/01/2021 3:10 PM	03/02/2021 3:10 PM
2103037-010	MW-01S-030121	03/01/2021 3:40 PM	03/02/2021 3:10 PM
2103037-011	MW-06S-030221	03/02/2021 9:55 AM	03/02/2021 3:10 PM
2103037-012	MW-02S-030221	03/02/2021 9:50 AM	03/02/2021 3:10 PM
2103037-013	MW-99S-030221	03/02/2021 9:55 AM	03/02/2021 3:10 PM
2103037-014	MW-05S-030221	03/02/2021 11:00 AM	03/02/2021 3:10 PM
2103037-015	MW-03S-030221	03/02/2021 11:30 AM	03/02/2021 3:10 PM
2103037-016	MW-05D-030221	03/02/2021 12:00 PM	03/02/2021 3:10 PM
2103037-017	MW-03D-030221	03/02/2021 12:45 PM	03/02/2021 3:10 PM



#### **Case Narrative**

WO#: **2103037**Date: **3/15/2021** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

#### Notations:

-Volume for Alkalinity and Sulfide was field filtered, hence the values reported can be considered dissolved alkalinity and dissolved sulfide.



#### **Qualifiers & Acronyms**

WO#: **2103037** 

Date Reported: 3/15/2021

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

#### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MCL - Maximum Contaminant Level

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-001 Matrix: Groundwater

Client Sample ID: MW-09S-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Method	d 300.0			Batc	h ID:	31539 Analyst: SS
Fluoride	0.892	0.160	D	mg/L	2	3/2/2021 10:31:00 PM
Chloride	17.2	1.00	D	mg/L	10	3/3/2021 9:18:00 AM
Nitrite (as N)	ND	0.200	D	mg/L	2	3/2/2021 10:31:00 PM
Bromide	ND	0.800	D	mg/L	2	3/2/2021 10:31:00 PM
Nitrate (as N)	0.296	0.200	DQ	mg/L	2	3/2/2021 10:31:00 PM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/2/2021 10:31:00 PM
Sulfate	74.4	6.00	D	mg/L	10	3/3/2021 9:18:00 AM
NOTES:						
Diluted due to matrix.						
Q - Indicates an analyte with an initial calibrat	tion verificatio	n that does not	meet estab	olished accep	otance	e criteria
Dissolved Metals by EPA Method 20	<u>0.8</u>			Batc	h ID:	31553 Analyst: EH
Arsenic	44.5	1.00		μg/L	1	3/4/2021 6:50:21 PM
Iron	9,250	100		μg/L	1	3/4/2021 6:50:21 PM
Manganese	341	1.80		μg/L	1	3/4/2021 6:50:21 PM
Total Metals by EPA Method 200.8				Batc	h ID:	31541 Analyst: EH
Arsenic	46.9	1.00		μg/L	1	3/4/2021 6:05:48 PM
Calcium	80,600	200		μg/L	1	3/4/2021 6:05:48 PM
Magnesium	16,300	100		μg/L	1	3/4/2021 6:05:48 PM
Potassium	7,240	200		μg/L	1	3/4/2021 6:05:48 PM
Sodium	23,200	200		μg/L	1	3/4/2021 6:05:48 PM
Dissolved Organic Carbon by SM 53	310C			Batc	h ID:	R65729 Analyst: SS
Organic Carbon, Dissolved	5.13	0.500		mg/L	1	3/8/2021 8:19:00 PM
Total Organic Carbon by SM 5310C				Batc	h ID:	R65721 Analyst: SS
Total Organic Carbon	4.78	0.500		mg/L	1	3/4/2021 6:33:00 PM
Total Alkalinity by SM 2320B				Batc	h ID:	R65761 Analyst: WF
Alkalinity, Total (As CaCO3)	239	2.50		mg/L	1	3/5/2021 12:31:30 PM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-001 Matrix: Groundwater

Client Sample ID: MW-09S-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 10:05:00 AM

Project: Weyer Mill E

Lab ID: 2103037-002 Matrix: Groundwater

Client Sample ID: PZ-1B-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Met	hod 300.0			Bato	h ID: 31	539 Analyst: SS
Fluoride	0.892	0.0800		mg/L	1	3/2/2021 10:54:00 PM
Chloride	26.5	2.00	D	mg/L	20	3/3/2021 9:41:00 AM
Nitrite (as N)	ND	0.100		mg/L	1	3/2/2021 10:54:00 PM
Bromide	0.447	0.400		mg/L	1	3/2/2021 10:54:00 PM
Nitrate (as N)	ND	0.100	Q	mg/L	1	3/2/2021 10:54:00 PM
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/2/2021 10:54:00 PM
Sulfate	1.80	0.600		mg/L	1	3/2/2021 10:54:00 PM
NOTES:						
Q - Indicates an analyte with an initial cal	ibration verification	that does not	meet estab	lished acce	ptance cri	teria
Dissolved Metals by EPA Method	1 200.8			Bato	h ID: 31	553 Analyst: EH
Arsenic	69.9	1.00		μg/L	1	3/4/2021 7:23:47 PM
Iron	23,000	100		μg/L	1	3/4/2021 7:23:47 PM
Manganese	1,560	1.80		μg/L	1	3/4/2021 7:23:47 PM
Total Metals by EPA Method 200	<u>.8</u>			Bato	h ID: 31	541 Analyst: EH
Arsenic	71.2	1.00		μg/L	1	3/4/2021 6:11:22 PM
Calcium	67,400	200		μg/L	1	3/4/2021 6:11:22 PM
Magnesium	15,400	100		μg/L	1	3/4/2021 6:11:22 PM
Potassium	9,440	200		μg/L	1	3/4/2021 6:11:22 PM
Sodium	26,500	200		μg/L	1	3/4/2021 6:11:22 PM
Dissolved Organic Carbon by SM	1 5310C			Bato	h ID: R6	S5729 Analyst: SS
Organic Carbon, Dissolved	14.3	0.500		mg/L	1	3/8/2021 8:41:00 PM
Total Organic Carbon by SM 5310	<u>0C</u>			Bato	h ID: R6	95721 Analyst: SS
Total Organic Carbon	13.5	0.500		mg/L	1	3/4/2021 8:10:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	S5761 Analyst: WF
Alkalinity, Total (As CaCO3)	277	2.50		mg/L	1	3/5/2021 12:31:30 PM
Sulfide by SM 4500-S2-F				Bato	h ID: R6	55686 Analyst: SS
Sulfide	1.00	0.500		mg/L	1	3/8/2021 9:41:24 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 11:10:00 AM

Project: Weyer Mill E

Lab ID: 2103037-003 Matrix: Groundwater

Client Sample ID: MW-10D-030121

Client Sample ID: MW-10D-030121 Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA Metho	d 300.0			Bato	h ID: 31	539 Analyst: SS
Fluoride	0.510	0.400	D	mg/L	5	3/3/2021 12:27:00 AM
Chloride	102	5.00	D	mg/L	50	3/3/2021 10:04:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	3/3/2021 12:27:00 AM
Bromide	ND	2.00	D	mg/L	5	3/3/2021 12:27:00 AM
Nitrate (as N)	ND	0.500	DQ	mg/L	5	3/3/2021 12:27:00 AM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/3/2021 12:27:00 AM
Sulfate	5.01	3.00	D	mg/L	5	3/3/2021 12:27:00 AM
NOTES:				· ·		
Diluted due to matrix.						
Q - Indicates an analyte with an initial calibra	ation verification	that does not	meet estab	olished acce	ptance cri	teria
Dissolved Metals by EPA Method 20	<u>8.00</u>			Bato	h ID: 31	553 Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/4/2021 7:29:21 PM
Iron	356	100		μg/L	1	3/4/2021 7:29:21 PM
Manganese	33.2	1.80		μg/L	1	3/4/2021 7:29:21 PM
Total Metals by EPA Method 200.8				Bato	h ID: 31	541 Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/4/2021 6:16:56 PM
Calcium	25,500	200		μg/L	1	3/4/2021 6:16:56 PM
Magnesium	53,500	2,000	D	μg/L	20	3/12/2021 12:09:19 PM
Potassium	19,600	200	_	μg/L	1	3/4/2021 6:16:56 PM
Sodium	163,000	4,000	D	μg/L	20	3/12/2021 12:09:19 PM
Dissolved Organic Carbon by SM 5	<u>310C</u>			Bato	h ID: R6	5729 Analyst: SS
Organic Carbon, Dissolved	14.7	0.500		mg/L	1	3/8/2021 9:13:00 PM
Total Organic Carbon by SM 5310C				Bato	h ID: R6	5721 Analyst: SS
Total Organic Carbon	15.7	0.500		mg/L	1	3/4/2021 8:31:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5761 Analyst: WF
Alkalinity, Total (As CaCO3)	802	2.50		mg/L	1	3/5/2021 12:31:30 PM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 11:10:00 AM

Project: Weyer Mill E

Lab ID: 2103037-003 Matrix: Groundwater

Client Sample ID: MW-10D-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 2.80
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

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Work Order: 2103037 Date Reported: 3/15/2021

Client: Floyd | Snider Collection Date: 3/1/2021 11:25:00 AM

Project: Weyer Mill E

**Lab ID:** 2103037-004 Matrix: Groundwater

Client Sample ID: MW-09D-0301	121						
Analyses	Result	RL	Qual	Units	DF	Da	ate Analyzed
lon Chromatography by EPA M	lethod 300.0			Bato	h ID: 31	539	Analyst: SS
Fluoride	0.570	0.400	D	mg/L	5	3/3/2	2021 1:36:00 AM
Chloride	68.8	4.00	D	mg/L	40	3/3/2	2021 10:27:00 AM
Nitrite (as N)	ND	0.500	D	mg/L	5	3/3/2	2021 1:36:00 AM
Bromide	ND	2.00	D	mg/L	5	3/3/2	2021 1:36:00 AM
Nitrate (as N)	ND	0.500	DQ	mg/L	5	3/3/2	2021 1:36:00 AM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/3/2	2021 1:36:00 AM
Sulfate	ND	3.00	D	mg/L	5	3/3/2	2021 1:36:00 AM
NOTES:				Ü			
Diluted due to matrix.							
Q - Indicates an analyte with an initial	calibration verification	that does not	meet estab	olished acce	ptance cri	teria	
•							
<b>Dissolved Metals by EPA Meth</b>	<u>od 200.8</u>			Bato	h ID: 31	553	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/4/2	2021 7:34:55 PM
Iron	2,130	100		μg/L	1	3/4/2	2021 7:34:55 PM
Manganese	82.2	1.80		μg/L	1	3/4/2	2021 7:34:55 PM
Total Metals by EPA Method 2	00.8			Bato	h ID: 31	541	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/4/	2021 6:22:30 PM
Calcium	14,400	200		μg/L	1		2021 6:22:30 PM
Magnesium	40,000	2,000	D	μg/L μg/L	20		/2021 12:14:53 PM
Potassium	16,100	200	D	μg/L μg/L	1		2021 6:22:30 PM
Sodium	142,000	4,000	D	μg/L μg/L	20		/2021 12:14:53 PM
Codium	142,000	4,000	D	μg/L	20	0/12	72021 12.14.551 W
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R6	5729	Analyst: SS
Organic Carbon, Dissolved	12.6	0.500		mg/L	1	3/8/2	2021 9:43:00 PM
Total Organic Carbon by SM 53	310C			Bato	h ID: R6	5721	Analyst: SS
-							
Total Organic Carbon	11.2	0.500		mg/L	1	3/4/2	2021 8:54:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5761	Analyst: WF
Alkalinity, Total (As CaCO3)	425	2.50		mg/L	1	3/5/2	2021 12:31:30 PM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 11:25:00 AM

Project: Weyer Mill E

Lab ID: 2103037-004 Matrix: Groundwater

Client Sample ID: MW-09D-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 12:30:00 PM

Project: Weyer Mill E

Lab ID: 2103037-005 Matrix: Groundwater

Client Sample ID: LL MW-19D-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	ch ID: 31	539 Analyst: SS
Fluoride	0.392	0.160	D	mg/L	2	3/3/2021 10:50:00 AM
Chloride	37.7	2.00	D	mg/L	20	3/3/2021 11:13:00 AM
Nitrite (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 10:50:00 AM
Bromide	ND	0.800	D	mg/L	2	3/3/2021 10:50:00 AM
Nitrate (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 10:50:00 AM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/3/2021 10:50:00 AM
Sulfate	6.24	1.20	D	mg/L	2	3/3/2021 10:50:00 AM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method	<u>l 200.8</u>			Bato	ch ID: 31	553	Analyst: EH
Arsenic	21.0	1.00		μg/L	1	3/4/2	021 7:40:29 PM
Iron	1,190	100		μg/L	1	3/4/2	021 7:40:29 PM
Manganese	380	1.80		μg/L	1	3/4/2	021 7:40:29 PM
Total Metals by EPA Method 200	<u>.8</u>			Bato	ch ID: 31	541	Analyst: EH
Arsenic	27.7	1.00		μg/L	1	3/8/2	021 9:11:50 PM
Calcium	51,700	4,000	D	μg/L	20	3/11/	2021 1:56:21 PM
Magnesium	16,200	100		μg/L	1	3/8/2	021 9:11:50 PM
Potassium	7,360	200		μg/L	1	3/8/2	021 9:11:50 PM
Sodium	48,000	4,000	D	μg/L	20	3/11/	2021 1:56:21 PM
Dissolved Organic Carbon by SN	1 5310C			Bato	ch ID: R6	5729	Analyst: SS
Organic Carbon, Dissolved	7.46	0.500		mg/L	1	3/9/2	021 12:03:00 AM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	ch ID: R6	5721	Analyst: SS
Total Organic Carbon	8.03	0.500		mg/L	1	3/4/2	021 10:08:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5762	Analyst: WF
Alkalinity, Total (As CaCO3)	223	2.50		mg/L	1	3/9/2	021 11:50:58 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 12:30:00 PM

Project: Weyer Mill E

Lab ID: 2103037-005 Matrix: Groundwater

Client Sample ID: LL MW-19D-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 1.20
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:00:00 PM

Project: Weyer Mill E

Lab ID: 2103037-006 Matrix: Groundwater

Client Sample ID: LL MW-20D-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed		
Ion Chromatography by EPA	lon Chromatography by EPA Method 300.0				Batch ID: 31539 Analyst:			
Fluoride	ND	3.20	D	mg/L	40	3/3/2021 12:00:00 PM		
Chloride	929	40.0	D	mg/L	400	3/3/2021 11:36:00 AM		
Nitrite (as N)	ND	4.00	DQ	mg/L	40	3/3/2021 12:00:00 PM		
Bromide	ND	16.0	D	mg/L	40	3/3/2021 12:00:00 PM		
Nitrate (as N)	ND	4.00	DQ	mg/L	40	3/3/2021 12:00:00 PM		
Ortho-Phosphate (as P)	ND	21.0	D	mg/L	40	3/3/2021 12:00:00 PM		
Sulfate	220	24.0	D	mg/L	40	3/3/2021 12:00:00 PM		
NOTES:								

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method	d 200.8			Bato	h ID: 31	553	Analyst: EH
Arsenic	9.53	1.00		μg/L	1	3/4/2	021 7:46:03 PM
Iron	ND	100		μg/L	1	3/4/2	021 7:46:03 PM
Manganese	30.4	1.80		μg/L	1	3/4/2	021 7:46:03 PM
Total Metals by EPA Method 200	<u>0.8</u>			Bato	h ID: 31	562	Analyst: EH
Arsenic	12.0	1.00	В	μg/L	1	3/5/2	021 8:56:27 PM
Calcium	34,500	200		μg/L	1	3/5/2	021 8:56:27 PM
Magnesium	72,300	1,000	D	μg/L	10	3/10/	2021 4:13:47 PM
Potassium	32,700	2,000	D	μg/L	10	3/10/	2021 4:13:47 PM
Sodium	663,000	2,000	D	μg/L	10	3/10/	2021 4:13:47 PM
NOTES: B - Indicates a detection in the ICB or C	CB.						
Dissolved Organic Carbon by SI	<u>M 5310C</u>			Bato	h ID: R6	5729	Analyst: SS
Organic Carbon, Dissolved	6.05	0.500		mg/L	1	3/9/2	021 12:26:00 AM
Total Organic Carbon by SM 531	<u>0C</u>			Bato	h ID: R6	5721	Analyst: SS
Total Organic Carbon	5.56	0.500		mg/L	1	3/4/2	021 10:31:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5762	Analyst: WF
Alkalinity, Total (As CaCO3)	162	2.50		mg/L	1	3/9/2	021 11:50:58 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:00:00 PM

Project: Weyer Mill E

Lab ID: 2103037-006 Matrix: Groundwater

Client Sample ID: LL MW-20D-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:55:00 PM

Project: Weyer Mill E

Lab ID: 2103037-007 Matrix: Groundwater

Client Sample ID: PZ-2D-030121

Analyses	Result	RL	Qual	Units	DF	Da	te Analyzed	
Ion Chromatography by EPA Metho	od 300.0			Batch ID: 31539 Analyst: St				
Fluoride	0.595	0.400	D	mg/L	5	3/3/2	021 2:46:00 AM	
Chloride	74.1	5.00	D	mg/L	50	3/3/2	021 1:09:00 PM	
Nitrite (as N)	ND	0.500	D	mg/L	5	3/3/2	021 2:46:00 AM	
Bromide	ND	2.00	D	mg/L	5	3/3/2	021 2:46:00 AM	
Nitrate (as N)	ND	0.500	DQ	mg/L	5	3/3/2	021 2:46:00 AM	
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/3/2	021 2:46:00 AM	
Sulfate NOTES:	ND	3.00	D	mg/L	5	3/3/2	021 2:46:00 AM	
Diluted due to matrix.								
Q - Indicates an analyte with an initial calibra	ation verification	that does not	meet estab	lished acce	ptance cri	teria		
Dissolved Metals by EPA Method 2	<u>8.00</u>			Bato	h ID: 31	553	Analyst: EH	
Arsenic	ND	1.00		μg/L	1	3/4/2	021 7:51:37 PM	
Iron	3,310	100		μg/L	1	3/4/2	021 7:51:37 PM	
Manganese	249	1.80		μg/L	1	3/4/2	021 7:51:37 PM	
Total Metals by EPA Method 200.8				Bato	h ID: 31	562	Analyst: EH	
Arsenic	1.69	1.00	В	μg/L	1	3/5/2	021 9:02:00 PM	
Calcium	14,900	200		μg/L	1	3/5/2	021 9:02:00 PM	
Magnesium	44,900	1,000	D	μg/L	10	3/10/	2021 4:19:21 PM	
Potassium	13,300	200		μg/L	1	3/5/2	021 9:02:00 PM	
Sodium	133,000	2,000	D	μg/L	10	3/10/	2021 4:19:21 PM	
<b>NOTES:</b> B - Indicates a detection in the ICB or CCB.								
Dissolved Organic Carbon by SM 5	310C			Bato	h ID: R6	5729	Analyst: SS	
Organic Carbon, Dissolved	13.1	0.500		mg/L	1	3/9/2	021 12:59:00 AM	
Total Organic Carbon by SM 5310C				Bato	h ID: R6	5721	Analyst: SS	
Total Organic Carbon	12.6	0.500		mg/L	1	3/4/2	021 10:54:00 PM	
Total Alkalinity by SM 2320B				Bato	h ID: R6	5762	Analyst: WF	
Alkalinity, Total (As CaCO3)	411	2.50		mg/L	1	3/9/2	021 11:50:58 AM	



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:55:00 PM

Project: Weyer Mill E

Lab ID: 2103037-007 Matrix: Groundwater

Client Sample ID: PZ-2D-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:44:00 PM

Project: Weyer Mill E

Lab ID: 2103037-008 Matrix: Groundwater

Client Sample ID: PZ-3B-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA Meth	od 300.0			Bato	h ID: 31	539 Analyst: SS
Fluoride	ND	0.800	D	mg/L	10	3/3/2021 3:09:00 AM
Chloride	437	20.0	D	mg/L	200	3/3/2021 1:32:00 PM
Nitrite (as N)	ND	1.00	D	mg/L	10	3/3/2021 3:09:00 AM
Bromide	ND	4.00	D	mg/L	10	3/3/2021 3:09:00 AM
Nitrate (as N)	1.61	1.00	DQ	mg/L	10	3/3/2021 3:09:00 AM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/3/2021 3:09:00 AM
Sulfate NOTES:	205	120	D	mg/L	200	3/3/2021 1:32:00 PM
Diluted due to matrix.						
Q - Indicates an analyte with an initial calib	ration verification	that does not	meet estab	olished acce	ptance crit	teria
Dissolved Metals by EPA Method 2	200.8			Bato	h ID: 31	553 Analyst: EH
Arsenic	8.34	1.00		μg/L	1	3/4/2021 7:57:11 PM
Iron	ND	100		μg/L	1	3/4/2021 7:57:11 PM
Manganese	3.53	1.80		μg/L	1	3/4/2021 7:57:11 PM
Total Metals by EPA Method 200.8	<u>3</u>			Bato	h ID: 31	562 Analyst: EH
Arsenic	13.6	1.00	В	μg/L	1	3/5/2021 9:07:34 PM
Calcium	8,960	200	_	μg/L	1	3/5/2021 9:07:34 PM
Magnesium	21,100	1,000	D	μg/L	10	3/10/2021 4:24:55 PM
Potassium	16,400	200		μg/L	1	3/5/2021 9:07:34 PM
Sodium	440,000	2,000	D	μg/L	10	3/10/2021 4:24:55 PM
NOTES: B - Indicates a detection in the ICB or CCB						
Dissolved Organic Carbon by SM	<u>5310C</u>			Bato	h ID: R6	5729 Analyst: SS
Organic Carbon, Dissolved	9.17	0.500		mg/L	1	3/9/2021 1:19:00 AM
Total Organic Carbon by SM 53100	<u>c</u>			Bato	h ID: R6	5721 Analyst: SS
Total Organic Carbon	9.10	0.500		mg/L	1	3/4/2021 11:27:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5762 Analyst: WF
Alkalinity, Total (As CaCO3)	124	2.50		mg/L	1	3/9/2021 11:50:58 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 1:44:00 PM

Project: Weyer Mill E

Lab ID: 2103037-008 Matrix: Groundwater

Client Sample ID: PZ-3B-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 3:10:00 PM

Project: Weyer Mill E

Lab ID: 2103037-009 Matrix: Groundwater

Client Sample ID: PZ-2B-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID: 31	539 Analyst: SS
Fluoride	0.0970	0.0800		mg/L	1	3/3/2021 1:55:00 PM
Chloride	5.39	0.200	D	mg/L	2	3/3/2021 3:32:00 AM
Nitrite (as N)	ND	0.100	Q	mg/L	1	3/3/2021 1:55:00 PM
Bromide	ND	0.400		mg/L	1	3/3/2021 1:55:00 PM
Nitrate (as N)	ND	0.100	Q	mg/L	1	3/3/2021 1:55:00 PM
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/3/2021 1:55:00 PM
Sulfate	4.45	0.600		mg/L	1	3/3/2021 1:55:00 PM
NOTES:						

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method	1 200.8		Batch	ID:	31553	Analyst: EH	
Arsenic	ND	1.00	μg/L	1	3/4/2	021 8:02:45 PM	
Iron	ND	100	μg/L	1	3/4/2	021 8:02:45 PM	
Manganese	6.16	1.80	μg/L	1	3/4/2	021 8:02:45 PM	
Total Metals by EPA Method 200	<u>.8</u>		Batch	ID:	31562	Analyst: EH	
Arsenic	1.72	1.00	μg/L	1	3/10/	2021 4:30:29 PM	
Calcium	34,900	200	μg/L	1	3/5/2	021 9:13:08 PM	
Magnesium	5,770	100	μg/L	1	3/10/	2021 4:30:29 PM	
Potassium	1,930	200	μg/L	1	3/5/2	021 9:13:08 PM	
Sodium	8,370	200	μg/L	1	3/5/2	021 9:13:08 PM	
Dissolved Organic Carbon by SN	<u>1 5310C</u>		Batch	ID:	R65729	Analyst: SS	
Organic Carbon, Dissolved	10.6	0.500	mg/L	1	3/9/2	021 1:42:00 AM	
Total Organic Carbon by SM 531	<u>0C</u>		Batch	ID:	R65721	Analyst: SS	
Total Organic Carbon	11.0	0.500	mg/L	1	3/4/2	021 11:56:00 PM	
Total Alkalinity by SM 2320B			Batch	ID:	R65763	Analyst: WF	:
Alkalinity, Total (As CaCO3)	119	2.50	mg/L	1	3/10/	2021 10:27:48 Al	М

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite)



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 3:10:00 PM

Project: Weyer Mill E

Lab ID: 2103037-009 Matrix: Groundwater

Client Sample ID: PZ-2B-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 3:40:00 PM

Project: Weyer Mill E

Lab ID: 2103037-010 Matrix: Groundwater

Client Sample ID: MW-01S-030121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA M	lethod 300.0			Batc	h ID: 315	39 Analyst: SS
Fluoride	ND	16.0	D	mg/L	200	3/3/2021 3:55:00 AM
Chloride	10,500	1,000	D	mg/L	10000	3/3/2021 2:18:00 PM
Nitrite (as N)	ND	20.0	D	mg/L	200	3/3/2021 3:55:00 AM
Bromide	ND	80.0	D	mg/L	200	3/3/2021 3:55:00 AM
Nitrate (as N)	ND	20.0	DQ	mg/L	200	3/3/2021 3:55:00 AM
Ortho-Phosphate (as P)	ND	105	D	mg/L	200	3/3/2021 3:55:00 AM
Sulfate	1,290	120	D	mg/L	200	3/3/2021 3:55:00 AM
NOTES:						
Diluted due to matrix.						
Q - Indicates an analyte with an initial	calibration verification	that does not	meet estab	lished acce	ptance crite	ria
Dissolved Metals by EPA Meth	od 200.8			Batc	h ID: 315	53 Analyst: EH
Arsenic	1.41	1.00		μg/L	1	3/4/2021 8:19:29 PM
Iron	306	100		μg/L	1	3/4/2021 8:19:29 PM
Manganese	10.3	1.80		μg/L	1	3/4/2021 8:19:29 PM
Total Metals by EPA Method 2	00.8			Bato	h ID: 3156	62 Analyst: EH
Arsenic	3.29	1.00	В	μg/L	1	3/5/2021 9:18:42 PM
Calcium	299,000	20,000	D	μg/L	100	3/10/2021 4:36:03 PM
Magnesium	791,000	10,000	D	μg/L	100	3/10/2021 4:36:03 PM
Potassium	192,000	20,000	D	μg/L	100	3/10/2021 4:36:03 PM
Sodium	5,780,000	20,000	D	μg/L	100	3/10/2021 4:36:03 PM
NOTES:						
B - Indicates a detection in the ICB or	CCB.					
Dissolved Organic Carbon by	SM 5310C			Batc	h ID: R65	729 Analyst: SS
Organic Carbon, Dissolved	ND	0.500		mg/L	1	3/9/2021 2:16:00 AM
Total Organic Carbon by SM 5	310C			Bato	h ID: R65	721 Analyst: SS
Total Organic Carbon	ND	0.500		mg/L	1	3/5/2021 12:27:00 AM
Total Alkalinity by SM 2320B				Batc	h ID: R65	763 Analyst: WF
Alkalinity, Total (As CaCO3)	47.8	2.50		mg/L	1	3/10/2021 10:27:48 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/1/2021 3:40:00 PM

Project: Weyer Mill E

Lab ID: 2103037-010 Matrix: Groundwater

Client Sample ID: MW-01S-030121

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-011 Matrix: Groundwater

Client Sample ID: MW-06S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	ch ID: 31	539 Analyst: SS
Fluoride	0.229	0.0800		mg/L	1	3/3/2021 2:41:00 PM
Chloride	1.48	0.100		mg/L	1	3/3/2021 2:41:00 PM
Nitrite (as N)	ND	0.100	Q	mg/L	1	3/3/2021 2:41:00 PM
Bromide	ND	0.400		mg/L	1	3/3/2021 2:41:00 PM
Nitrate (as N)	0.210	0.100	Q	mg/L	1	3/3/2021 2:41:00 PM
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/3/2021 2:41:00 PM
Sulfate	29.9	2.40	D	mg/L	4	3/3/2021 3:04:00 PM
NOTES:						

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method	<u>200.8</u>		Batch	ID:	31553	Analyst: EH	
Arsenic	ND	1.00	μg/L	1	3/4/2	021 8:25:03 PM	
Iron	ND	100	μg/L	1	3/4/2	021 8:25:03 PM	
Manganese	15.3	1.80	μg/L	1	3/4/2	021 8:25:03 PM	
Total Metals by EPA Method 200.	<u>8</u>		Batch	ID:	31562	Analyst: EH	
Arsenic	2.61	1.00	μg/L	1	3/10/	2021 4:41:37 PM	
Calcium	35,900	200	μg/L	1	3/5/2	021 9:24:16 PM	
Magnesium	10,100	100	μg/L	1	3/10/	2021 4:41:37 PM	
Potassium	1,950	200	μg/L	1	3/5/2	021 9:24:16 PM	
Sodium	11,900	200	μg/L	1	3/5/2	021 9:24:16 PM	
Dissolved Organic Carbon by SM	<u>5310C</u>		Batch	ID:	R65729	Analyst: SS	
Organic Carbon, Dissolved	3.48	0.500	mg/L	1	3/9/2	021 2:35:00 AM	
Total Organic Carbon by SM 5310	<u>)C</u>		Batch	ID:	R65721	Analyst: SS	
Total Organic Carbon	3.42	0.500	mg/L	1	3/5/2	021 12:46:00 AM	
Total Alkalinity by SM 2320B			Batch	ID:	R65763	Analyst: WF	
Alkalinity, Total (As CaCO3)	129	2.50	mg/L	1	3/10/	2021 10:27:48 AM	

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite)



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-011 Matrix: Groundwater

Client Sample ID: MW-06S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

\_\_\_\_



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:50:00 AM

Project: Weyer Mill E

Lab ID: 2103037-012 Matrix: Groundwater

Client Sample ID: MW-02S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	ch ID: 315	539 Analyst: SS
Fluoride	0.392	0.320	D	mg/L	4	3/3/2021 3:27:00 PM
Chloride	108	10.0	D	mg/L	100	3/3/2021 3:50:00 PM
Nitrite (as N)	ND	0.400	DQ	mg/L	4	3/3/2021 3:27:00 PM
Bromide	ND	1.60	D	mg/L	4	3/3/2021 3:27:00 PM
Nitrate (as N)	0.484	0.400	DQ	mg/L	4	3/3/2021 3:27:00 PM
Ortho-Phosphate (as P)	ND	2.10	D	mg/L	4	3/3/2021 3:27:00 PM
Sulfate	61.6	6.00	D	mg/L	10	3/3/2021 5:27:00 AM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Metho	<u>d 200.8</u>			Bato	h ID: 31	553 Analyst: EH
Arsenic	4.54	1.00		μg/L	1	3/4/2021 8:30:37 PM
Iron	ND	100		μg/L	1	3/4/2021 8:30:37 PM
Manganese	4.70	1.80		μg/L	1	3/4/2021 8:30:37 PM
Total Metals by EPA Method 20	0.8			Bato	h ID: 31	562 Analyst: EH
Arsenic	8.54	1.00	В	μg/L	1	3/5/2021 9:41:00 PM
Calcium	21,400	200		μg/L	1	3/5/2021 9:41:00 PM
Magnesium	20,000	1,000	D	μg/L	10	3/10/2021 4:47:12 PM
Potassium	8,090	200		μg/L	1	3/5/2021 9:41:00 PM
Sodium	142,000	2,000	D	μg/L	10	3/10/2021 4:47:12 PM
<b>NOTES:</b> B - Indicates a detection in the ICB or C	CB.					
Dissolved Organic Carbon by Si	M 5310C			Bato	h ID: R6	55729 Analyst: SS
Organic Carbon, Dissolved	6.90	0.500		mg/L	1	3/9/2021 2:57:00 AM
Total Organic Carbon by SM 531	<u>10C</u>			Bato	h ID: R6	5721 Analyst: SS
Total Organic Carbon	6.97	0.500		mg/L	1	3/5/2021 1:08:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5763 Analyst: WF
Alkalinity, Total (As CaCO3)	196	2.50		mg/L	1	3/10/2021 10:27:48 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:50:00 AM

Project: Weyer Mill E

Lab ID: 2103037-012 Matrix: Groundwater

Client Sample ID: MW-02S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Out-to-1



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-013 Matrix: Groundwater

Client Sample ID: MW-99S-030221

Analyses	Result	RL	Qual	Units DF		Date Analyzed
Ion Chromatography by EPA Method 300.0				Bato	539 Analyst: SS	
Fluoride	0.410	0.400	D	mg/L	5	3/3/2021 5:00:00 PM
Chloride	109	10.0	D	mg/L	100	3/3/2021 5:23:00 PM
Nitrite (as N)	ND	0.500	DQ	mg/L	5	3/3/2021 5:00:00 PM
Bromide	ND	2.00	D	mg/L	5	3/3/2021 5:00:00 PM
Nitrate (as N)	0.545	0.500	DQ	mg/L	5	3/3/2021 5:00:00 PM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/3/2021 5:00:00 PM
Sulfate	65.0	3.00	D	mg/L	5	3/3/2021 5:00:00 PM

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method 200.8				Batch ID: 31553			Analyst: EH	
Arsenic	5.45	1.00		μg/L	1	3/4/2	021 8:36:11 PM	
Iron	111	100		μg/L 1 3/4/2021 8:36:1			021 8:36:11 PM	
Manganese	4.58	1.80		μg/L	1	3/4/2	021 8:36:11 PM	
Total Metals by EPA Method 200.8			Batch ID: 31562 Analyst:					
Arsenic	7.70	1.00	В	μg/L	1	3/5/2	021 9:46:34 PM	
Calcium	18,800	200		μg/L 1 3/5/2			021 9:46:34 PM	
Magnesium	17,000	1,000	D	μg/L 10 3/10/2			2021 4:52:46 PM	
Potassium	7,540	200		μg/L	1	021 9:46:34 PM		
Sodium	137,000	2,000	D	μg/L 10 3/10/2			2021 4:52:46 PM	
NOTES: B - Indicates a detection in the ICB or C  Dissolved Organic Carbon by S				Bato	:h ID: R6	5729	Analyst: SS	
-							·	
Organic Carbon, Dissolved	7.01	0.500		mg/L	1	3/9/2	021 4:10:00 AM	
Total Organic Carbon by SM 5310C					Batch ID: R65721 Analyst:			
Total Organic Carbon	6.81	0.500		mg/L	1	3/5/2	021 2:33:00 AM	
Total Alkalinity by SM 2320B					Batch ID: R65763 Analyst: \			
Alkalinity, Total (As CaCO3)	201	2.50		mg/L	1	3/10/	2021 10:27:48 AM	

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 9:55:00 AM

Project: Weyer Mill E

Lab ID: 2103037-013 Matrix: Groundwater

Client Sample ID: MW-99S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 0.600
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 11:00:00 AM

Project: Weyer Mill E

Lab ID: 2103037-014 Matrix: Groundwater

Client Sample ID: MW-05S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	
lon Chromatography by EPA	raphy by EPA Method 300.0			Bato	539 Analyst: SS		
Fluoride	0.320	0.0800		mg/L	1	3/3/2021 5:46:00 PM	
Chloride	11.3	0.500	D	mg/L	5	3/3/2021 6:09:00 PM	
Nitrite (as N)	ND	0.100	Q	mg/L	1	3/3/2021 5:46:00 PM	
Bromide	ND	0.400		mg/L	1	3/3/2021 5:46:00 PM	
Nitrate (as N)	ND	0.100	Q	mg/L	1	3/3/2021 5:46:00 PM	
Ortho-Phosphate (as P)	ND	0.525		mg/L	1	3/3/2021 5:46:00 PM	
Sulfate	16.8	3.00	D	mg/L	5	3/3/2021 6:09:00 PM	
NOTES:							

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Method 200.8					h ID: 31	553	Analyst: EH
Arsenic	1,160	1.00		μg/L	1	3/4/2	021 8:41:45 PM
Iron	52,800	1,000	D	μg/L 10 3/11/2021 4:52			2021 4:52:53 PM
Manganese	2,410	1.80		μg/L 1 3/4/2021 8:41:45			021 8:41:45 PM
Total Metals by EPA Method 200.8				Bato	Analyst: EH		
Arsenic	1,190	1.00		μg/L	1	3/5/2	021 9:52:08 PM
Calcium	96,800	200		μg/L	1	3/5/2	021 9:52:08 PM
Magnesium	29,700	2,000	D	μg/L	20	3/12/	2021 4:48:03 PM
Potassium	8,020	200		μg/L 1 3/5/2021 9			021 9:52:08 PM
Sodium	34,600	200		μg/L	1	3/5/2	021 9:52:08 PM
Dissolved Organic Carbon by SM 5310C			Bato	h ID: R6	5729	Analyst: SS	
Organic Carbon, Dissolved	14.7	0.500		mg/L 1 3/9/2021 4:33:00 A			021 4:33:00 AM
Total Organic Carbon by SM 5310C			Batch ID: R65721 A			Analyst: SS	
Total Organic Carbon	14.4	0.500		mg/L	1	3/5/2	021 3:03:00 AM
Total Alkalinity by SM 2320B				Batch ID: R65763			Analyst: WF
Alkalinity, Total (As CaCO3)	449	2.50		mg/L	1	3/10/	2021 10:27:48 AM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite)



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 11:00:00 AM

Project: Weyer Mill E

Lab ID: 2103037-014 Matrix: Groundwater

Client Sample ID: MW-05S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 1.00
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 11:30:00 AM

Project: Weyer Mill E

Lab ID: 2103037-015 Matrix: Groundwater

Client Sample ID: MW-03S-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	ch ID: 315	539 Analyst: SS
Fluoride	ND	0.400	D	mg/L	5	3/3/2021 6:32:00 PM
Chloride	122	10.0	D	mg/L	100	3/3/2021 6:55:00 PM
Nitrite (as N)	ND	0.500	DQ	mg/L	5	3/3/2021 6:32:00 PM
Bromide	ND	2.00	D	mg/L	5	3/3/2021 6:32:00 PM
Nitrate (as N)	1.18	0.500	DQ	mg/L	5	3/3/2021 6:32:00 PM
Ortho-Phosphate (as P)	ND	2.62	D	mg/L	5	3/3/2021 6:32:00 PM
Sulfate	9.36	3.00	D	mg/L	5	3/3/2021 6:32:00 PM

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

<b>Dissolved Metals by EPA Method</b>	d 200.8		Batch ID	31553	Analyst: EH
Arsenic	12.3	1.00	μg/L 1	3/4/2	2021 8:47:19 PM
Iron	688	100	μg/L 1	3/4/2	2021 8:47:19 PM
Manganese	24.0	1.80	μg/L 1	3/4/2	2021 8:47:19 PM
Total Metals by EPA Method 200	<u>).8</u>		Batch ID	31562	Analyst: EH
Arsenic	9.84	1.00	μg/L 1	3/10	/2021 4:58:20 PM
Calcium	21,200	200	μg/L 1	3/10	/2021 4:58:20 PM
Magnesium	4,960	100	μg/L 1	3/10	/2021 4:58:20 PM
Potassium	8,060	200	μg/L 1	3/10	/2021 4:58:20 PM
Sodium	66,000	200	μg/L 1	3/10	/2021 4:58:20 PM
Dissolved Organic Carbon by SM	<u>// 5310C</u>		Batch ID	R65729	Analyst: SS
Organic Carbon, Dissolved	4.25	0.500	mg/L 1	3/9/2	2021 4:54:00 AM
Total Organic Carbon by SM 531	<u>0C</u>		Batch ID	R65721	Analyst: SS
Total Organic Carbon	4.51	0.500	mg/L 1	3/5/2	2021 3:22:00 AM
Total Alkalinity by SM 2320B			Batch ID	R65763	Analyst: WF
Alkalinity, Total (As CaCO3)	16.2	2.50	mg/L 1	3/10	/2021 10:27:48 AM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 11:30:00 AM

Project: Weyer Mill E

Lab ID: 2103037-015 Matrix: Groundwater

Client Sample ID: MW-03S-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 12:00:00 PM

Project: Weyer Mill E

Lab ID: 2103037-016 Matrix: Groundwater

Client Sample ID: MW-05D-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID: 315	39 Analyst: SS
Fluoride	1.02	0.160	D	mg/L	2	3/3/2021 7:46:00 AM
Chloride	396	200	D	mg/L	2000	3/3/2021 7:19:00 PM
Nitrite (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 7:46:00 AM
Bromide	1.38	0.800	D	mg/L	2	3/3/2021 7:46:00 AM
Nitrate (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 7:46:00 AM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/3/2021 7:46:00 AM
Sulfate	9.31	1.20	D	mg/L	2	3/3/2021 7:46:00 AM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

Dissolved Metals by EPA Metho	d 200.8			Bato	ch ID: 31	553	Analyst: EH
Arsenic	194	1.00		μg/L	1	3/4/2	021 8:52:53 PM
Iron	34,700	1,000	D	μg/L	10	3/11/	2021 5:09:37 PM
Manganese	2,640	18.0	D	μg/L	10	3/11/	2021 5:09:37 PM
Total Metals by EPA Method 20	0.8			Bato	ch ID: 31	562	Analyst: EH
Arsenic	181	1.00		μg/L	1	3/5/2	021 10:03:16 PM
Calcium	40,300	200		μg/L	1	3/5/2	021 10:03:16 PM
Magnesium	39,600	1,000	D	μg/L	10	3/10/	2021 5:03:54 PM
Potassium	10,600	200		μg/L	1	3/5/2	021 10:03:16 PM
Sodium	276,000	2,000	D	μg/L	10	3/10/	2021 5:03:54 PM
Dissolved Organic Carbon by S	M 5310C			Bato	h ID: R6	5729	Analyst: SS
Organic Carbon, Dissolved	15.9	0.500		mg/L	1	3/9/2	021 5:17:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	ch ID: R6	5721	Analyst: SS
Total Organic Carbon	16.1	0.500		mg/L	1	3/5/2	021 4:30:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5763	Analyst: WF
Alkalinity, Total (As CaCO3)	425	2.50		mg/L	1	3/10/	2021 10:27:48 AM



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 12:00:00 PM

Project: Weyer Mill E

Lab ID: 2103037-016 Matrix: Groundwater

Client Sample ID: MW-05D-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 1.00
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

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Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 12:45:00 PM

Project: Weyer Mill E

Lab ID: 2103037-017 Matrix: Groundwater

Client Sample ID: MW-03D-030221

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	ch ID: 31	539 Analyst: SS
Fluoride	4.16	1.60	D	mg/L	20	3/3/2021 7:42:00 PM
Chloride	47.6	2.00	D	mg/L	20	3/3/2021 7:42:00 PM
Nitrite (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 8:09:00 AM
Bromide	ND	0.800	D	mg/L	2	3/3/2021 8:09:00 AM
Nitrate (as N)	ND	0.200	DQ	mg/L	2	3/3/2021 8:09:00 AM
Ortho-Phosphate (as P)	ND	1.05	D	mg/L	2	3/3/2021 8:09:00 AM
Sulfate	ND	1.20	D	mg/L	2	3/3/2021 8:09:00 AM
NOTEO						

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria (Nitrate)

<b>Dissolved Metals by EPA Meth</b>	od 200.8			Bato	h ID:	31553	Analyst: EH
-							
Arsenic	40.4	1.00		μg/L	1	3/4/2	021 8:58:27 PM
Iron	19,400	100		μg/L	1	3/4/2	021 8:58:27 PM
Manganese	286	1.80		μg/L	1	3/4/2	021 8:58:27 PM
Total Metals by EPA Method 2	00.8			Bato	h ID:	31562	Analyst: EH
Arsenic	46.9	1.00		μg/L	1	3/5/2	021 10:08:50 PM
Calcium	8,110	200		μg/L	1	3/5/2	021 10:08:50 PM
Magnesium	26,900	1,000	D	μg/L	10	3/12/	2021 12:03:45 PM
Potassium	9,050	200		μg/L	1	3/5/2	021 10:08:50 PM
Sodium	103,000	200		μg/L	1	3/5/2	021 10:08:50 PM
Dissolved Organic Carbon by	SM 5310C			Bato	h ID:	R65729	Analyst: SS
Organic Carbon, Dissolved	10.2	0.500		mg/L	1	3/9/2	021 6:35:00 AM
Total Organic Carbon by SM 53	310C			Bato	h ID:	R65721	Analyst: SS
Total Organic Carbon	10.4	0.500		mg/L	1	3/5/2	021 4:52:00 AM
Total Alkalinity by SM 2320B				Bato	h ID:	R65763	Analyst: WF
Alkalinity, Total (As CaCO3)	339	2.50		mg/L	1	3/10/	2021 10:27:48 AM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (Nitrite) Diluted due to matrix.



Work Order: **2103037**Date Reported: **3/15/2021** 

Client: Floyd | Snider Collection Date: 3/2/2021 12:45:00 PM

Project: Weyer Mill E

Lab ID: 2103037-017 Matrix: Groundwater

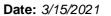
Client Sample ID: MW-03D-030221

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65686
 Analyst: SS

 Sulfide
 0.800
 0.500
 mg/L
 1
 3/8/2021 9:41:24 AM

Original





**CLIENT:** 

Floyd | Snider

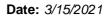
Project: Weyer Mill E

### **QC SUMMARY REPORT**

**Total Alkalinity by SM 2320B** 

Project: vveyer will	E					
Sample ID: MB-R65761	SampType: MBLK			Units: mg/L	Prep Date: <b>3/5/2021</b>	RunNo: <b>65761</b>
Client ID: MBLKW	Batch ID: <b>R65761</b>				Analysis Date: 3/5/2021	SeqNo: <b>1322996</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	ND	2.50				
Sample ID: LCS-R65761	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/5/2021	RunNo: <b>65761</b>
Client ID: LCSW	Batch ID: <b>R65761</b>				Analysis Date: 3/5/2021	SeqNo: <b>1322997</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	99.3	2.50	100.0	0	99.3 99.1 105	
Sample ID: <b>2103037-001DDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/5/2021	RunNo: <b>65761</b>
Client ID: MW-09S-030121	Batch ID: <b>R65761</b>				Analysis Date: 3/5/2021	SeqNo: <b>1322999</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	242	2.50			238.8	1.32 20
Sample ID: MB-R65762	SampType: MBLK			Units: mg/L	Prep Date: 3/9/2021	RunNo: <b>65762</b>
Client ID: MBLKW	Batch ID: <b>R65762</b>				Analysis Date: 3/9/2021	SeqNo: <b>1323005</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	ND	2.50				
Sample ID: LCS-R65762	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/9/2021	RunNo: <b>65762</b>
Client ID: LCSW	Batch ID: R65762				Analysis Date: 3/9/2021	SeqNo: <b>1323006</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	100	2.50	100.0	0	100 99.6 108	

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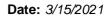
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

**Total Alkalinity by SM 2320B** 

Project: Weyer Mill E	Ξ				Total Alkalinity by SM 2320
Sample ID: 2103037-005DDUP	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/9/2021 RunNo: 65762
Client ID: <b>LL MW-19D-030121</b>	Batch ID: R65762				Analysis Date: 3/9/2021 SeqNo: 1323008
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	220	2.50			222.8 1.44 20
Sample ID: MB-R65763	SampType: MBLK			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65763
Client ID: MBLKW	Batch ID: R65763				Analysis Date: <b>3/10/2021</b> SeqNo: <b>1323083</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	ND	2.50			
Sample ID: LCS-R65763	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65763
Client ID: LCSW	Batch ID: R65763				Analysis Date: <b>3/10/2021</b> SeqNo: <b>1323084</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	99.3	2.50	100.0	0	99.3 99.1 105
Sample ID: <b>2103037-009DDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65763
Client ID: <b>PZ-2B-030121</b>	Batch ID: R65763				Analysis Date: 3/10/2021 SeqNo: 1323086
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	119	2.50			119.4 0 20
Sample ID: <b>2103081-002CDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: <b>3/10/2021</b> RunNo: <b>65763</b>
Client ID: BATCH	Batch ID: R65763				Analysis Date: 3/10/2021 SeqNo: 1323159
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	492	2.50			487.0 0.976 20

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

### **Dissolved Organic Carbon by SM 5310C**

Project: Weyer Mill	<u>E</u>								, , , , , , , , , , , , , , , , , , ,	
Sample ID: MB-R65729	SampType: MBLK			Units: mg/L	Pr	ep Date: <b>3/8/202</b>	1	RunNo: 657	729	
Client ID: MBLKW	Batch ID: <b>R65729</b>				Analys	sis Date: <b>3/8/202</b>	1	SeqNo: 132	22241	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC Low	Limit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	ND	0.500								
Sample ID: LCS-R65729	SampType: <b>LCS</b>			Units: mg/L	Pr	ep Date: <b>3/8/202</b>	1	RunNo: 657	729	
Client ID: LCSW	Batch ID: <b>R65729</b>				Analys	sis Date: 3/8/202	1	SeqNo: 132	22242	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC Low	Limit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	5.14	0.500	5.000	0	103	94.4 109				
Sample ID: <b>2103037-004EDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Pr	ep Date: <b>3/8/202</b>	1	RunNo: 657	729	
Client ID: MW-09D-030121	Batch ID: <b>R65729</b>				Analys	sis Date: <b>3/8/202</b>	1	SeqNo: 132	22247	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC Low	Limit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	12.7	0.500					12.64	0.607	20	
Sample ID: <b>2103037-004EMS</b>	SampType: <b>MS</b>			Units: mg/L	Pr	ep Date: <b>3/8/202</b>	1	RunNo: 657	729	
Client ID: MW-09D-030121	Batch ID: <b>R65729</b>				Analys	sis Date: <b>3/8/202</b>	1	SeqNo: 132	22248	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC Low	Limit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	17.0	0.500	5.000	12.64	87.3	80.9 124				
Sample ID: <b>2103037-004EMSD</b>	SampType: <b>MSD</b>			Units: mg/L	Pr	ep Date: <b>3/8/202</b>	1	RunNo: 657	729	
Client ID: MW-09D-030121	Batch ID: <b>R65729</b>				Analys	sis Date: <b>3/8/202</b>	1	SeqNo: 132	22249	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC Low	Limit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	17.0	0.500	5.000	12.64	88.2	80.9 124	17.01	0.258	30	

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Date: 3/15/2021



Work Order: 2103037

### **QC SUMMARY REPORT**

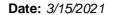
CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Dissolved Organic Carbon by SM 5310C**

Sample ID: 2103037-016EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>3/9/202</b>	1	RunNo: <b>657</b>	29	
Client ID: MW-05D-030221	Batch ID: R65729					Analysis Da	te: <b>3/9/202</b>	1	SeqNo: 132	2266	
Analyte	Result	RL	SPK value SI	PK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	15.8	0.500						15.94	0.686	20	

Sample ID: 2103037-016EMS	SampType: MS			Units: mg/L		Prep Da	te: <b>3/9/202</b>	21	RunNo: 657	729	
Client ID: MW-05D-030221	Batch ID: R65729					Analysis Da	ite: 3/9/202	:1	SeqNo: 132	22267	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	20.7	0.500	5.000	15.94	94.3	80.9	124				

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#### **QC SUMMARY REPORT**

#### **CLIENT:** Floyd | Snider Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: LCS-31539	SampType: <b>LCS</b>			Units: mg/L		Prep Dat	te: <b>3/2/202</b>	1	RunNo: 657	755	
Client ID: LCSW	Batch ID: 31539					Analysis Da	te: <b>3/2/202</b>	1	SeqNo: 132	22832	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.455	0.0800	0.5000	0	91.0	90	110				
Chloride	0.681	0.100	0.7500	0	90.8	90	110				
Nitrite (as N)	0.677	0.100	0.7500	0	90.3	90	110				
Bromide	2.26	0.400	2.500	0	90.5	90	110				
Nitrate (as N)	0.665	0.100	0.7500	0	88.7	90	110				S
Ortho-Phosphate (as P)	1.29	0.525	1.250	0	103	90	110				
Sulfate	3.40	0.600	3.750	0	90.6	90	110				
NOTES:											

S - Outlying spike recoveries were associated with this sample.

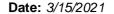
Sample ID: ICV-31539	SampType: ICV			Units: mg/L		Prep Dat	te: <b>3/2/202</b>	1	RunNo: <b>657</b>	<b>7</b> 55	
Client ID: ICV	Batch ID: 31559					Analysis Da	te: <b>3/2/202</b>	1	SeqNo: 132	22831	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.665	0.100	0.7500	0	88.7	90	110				S

#### NOTES:

S - Outlying spike recovery observed (low bias). Samples will be qualified with a Q.

Sample ID: MB-31539	SampType: MBLK			Units: mg/L		Prep Da	te: <b>3/2/202</b>	21	RunNo: 657	755	
Client ID: MBLKW	Batch ID: 31539				Analysis Date: 3/2/2021			21	SeqNo: 132	22834	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.0800									
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Bromide	ND	0.400									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.525									
Sulfate	ND	0.600									

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#### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: 2103037-002CDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>3/2/202</b>	1	RunNo: <b>657</b>	755	
Client ID: <b>PZ-1B-030121</b>	Batch ID: 31539					Analysis Da	te: <b>3/2/202</b>	1	SeqNo: 132	22837	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.894	0.0800						0.8920	0.224	20	
Chloride	32.9	0.100						32.90	0.143	20	Ε
Nitrite (as N)	ND	0.100						0		20	
Bromide	0.450	0.400						0.4470	0.669	20	
Nitrate (as N)	ND	0.100						0		20	Q
Ortho-Phosphate (as P)	ND	0.525						0		20	
Sulfate	1.81	0.600						1.805	0.277	20	

#### NOTES:

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria

Sample ID: 2103037-002CMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/2/202</b>	1	RunNo: 657	755	
Client ID: <b>PZ-1B-030121</b>	Batch ID: 31539					Analysis Da	te: <b>3/2/202</b>	1	SeqNo: 132	22838	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.47	0.0800	0.5000	0.8920	116	80	120				
Chloride	33.5	0.100	0.7500	32.90	80.8	80	120				Ε
Nitrite (as N)	0.704	0.100	0.7500	0	93.9	80	120				
Bromide	2.70	0.400	2.500	0.4470	90.2	80	120				
Nitrate (as N)	0.719	0.100	0.7500	0	95.9	80	120				
Ortho-Phosphate (as P)	ND	0.525	1.250	0	0	80	120				S
Sulfate	5.28	0.600	3.750	1.805	92.7	80	120				
NOTES.											

#### NOTES:

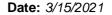
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2103037-002CMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>3/2/202</b>	1	RunNo: 657	'55	
Client ID: <b>PZ-1B-030121</b>	Batch ID: 31539		Analysis Date: <b>3/3/2021</b>				SeqNo: 132	2839			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.47	0.0800	0.5000	0.8920	116	80	120	1.470	0.136	20	

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E - Estimated value. The amount exceeds the linear working range of the instrument.

S - Outlying spike recovery(ies) observed.





#### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: 2103037-002CMSD  Client ID: PZ-1B-030121	SampType: MSD Batch ID: 31539	Units: <b>mg/L</b> Prep Date: <b>3/2/2021</b> Analysis Date: <b>3/3/2021</b>						RunNo: <b>657</b> SeqNo: <b>132</b>			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.5	0.100	0.7500	32.90	80.3	80	120	33.51	0.0119	20	Е
Nitrite (as N)	0.704	0.100	0.7500	0	93.9	80	120	0.7040	0	20	
Bromide	2.69	0.400	2.500	0.4470	89.7	80	120	2.702	0.445	20	
Nitrate (as N)	0.713	0.100	0.7500	0	95.1	80	120	0.7190	0.838	20	
Ortho-Phosphate (as P)	ND	0.525	1.250	0	0	80	120	0		20	S
Sulfate	5.32	0.600	3.750	1.805	93.8	80	120	5.280	0.774	20	

#### NOTES:

S - Outlying spike recovery(ies) observed.

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2103037-014CDUP	SampType: <b>DUP</b>			Units: mg/L		•	te: <b>3/2/202</b>		RunNo: <b>657</b>		
Client ID: <b>MW-05S-030221</b>	Batch ID: <b>31539</b>					Analysis Da	te: <b>3/3/202</b>	21	SeqNo: 132	22884	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	2.00						0		20	D
Chloride	10.8	2.50						11.00	1.37	20	D
Nitrite (as N)	ND	2.50						0		20	DQ
Bromide	ND	10.0						0		20	D
Nitrate (as N)	ND	2.50						0		20	DQ
Ortho-Phosphate (as P)	ND	13.1						0		20	D
Sulfate	18.6	15.0						18.50	0.270	20	D

#### NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Q - Indicates an analyte with an initial calibration verification that does not meet established acceptance criteria

Sample ID: 2103037-014CMS	SampType: <b>MS</b>			Units: mg/L		Prep Dat	te: <b>3/2/202</b>	1	RunNo: <b>657</b>	55	
Client ID: MW-05S-030221	Batch ID: 31539					Analysis Da	te: <b>3/3/202</b>	1	SeqNo: <b>132</b>	2885	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	12.4	2.00	12.50	1.150	90.0	80	120				D
Chloride	28.5	2.50	18.75	11.00	93.1	80	120				D

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Date: 3/15/2021



Work Order: 2103037

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: 2103037-014CMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/2/202</b>	1	RunNo: 657	755	
Client ID: MW-05S-030221	Batch ID: 31539				Analysis Date: 3/3/2021			1	SeqNo: 132	22885	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrite (as N)	17.1	2.50	18.75	0	91.1	80	120				D
Bromide	59.0	10.0	62.50	0	94.4	80	120				D
Nitrate (as N)	17.6	2.50	18.75	0	93.9	80	120				D
Ortho-Phosphate (as P)	32.2	13.1	31.25	0	103	80	120				D
Sulfate	111	15.0	93.75	18.50	99.0	80	120				D

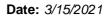
Sample ID: CCV-31539D	SampType: CCV			Units: mg/L		Prep Da	te: <b>3/3/202</b>	1	RunNo: 657	755	
Client ID: CCV	Batch ID: 31539					Analysis Da	te: <b>3/3/202</b>	1	SeqNo: 132	22851	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.485	0.0800	0.5000	0	97.0	90	110				
Chloride	0.726	0.100	0.7500	0	96.8	90	110				
Nitrite (as N)	0.664	0.100	0.7500	0	88.5	90	110				S
Bromide	2.39	0.400	2.500	0	95.7	90	110				
Nitrate (as N)	0.598	0.100	0.6250	0	95.7	90	110				
Ortho-Phosphate (as P)	2.00	0.525	1.250	0	160	90	110				S
Sulfate	3.82	0.600	3.750	0	102	90	110				

#### NOTES:

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S - Outlying spike recovery observed (high bias) for Phosphorus, Total Orthophoshate. Samples are non-detect for this analyte; no further action required.

S - Outlying spike recovery observed (low bias). Samples will be qualified with a Q.





### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

Sulfide by SM 4500-S2-F

Project:	Weyer Mill E										Sulfide by	y SM 450	0-S2-F
Sample ID: M	B-R65686	SampType:	MBLK			Units: mg/L		Prep Date	e: <b>3/8/202</b>	1	RunNo: 656	86	
Client ID: M	BLKW	Batch ID:	R65686					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	1438	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			ND	0.500									
Sample ID: L0	CS-R65686	SampType:	LCS			Units: mg/L		Prep Date	e: <b>3/8/202</b>	1	RunNo: 656	686	
Client ID: LC	CSW	Batch ID:	R65686					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	1439	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			1.80	0.500	2.000	0	90.0	74.9	118				
Sample ID: 21	103037-001GDUP	SampType:	DUP			Units: mg/L		Prep Date	e: <b>3/8/202</b>	1	RunNo: 656	686	
Client ID: M	W-09S-030121	Batch ID:	R65686					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	21441	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			ND	0.500						0		30	
Sample ID: 21	103037-001GMS	SampType:	MS			Units: mg/L		Prep Date	e: <b>3/8/202</b>	1	RunNo: 656	686	
Client ID: M	W-09S-030121	Batch ID:	R65686					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	1442	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			1.80	0.500	2.000	0	90.0	74.9	118				
Sample ID: 21	103037-001GMSD	SampType:	MSD			Units: mg/L		Prep Date	e: <b>3/8/202</b>	1	RunNo: 656	686	
Client ID: M	W-09S-030121	Batch ID:	R65686					Analysis Date	e: <b>3/8/202</b>	1	SeqNo: 132	1443	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide			1.60	0.500	2.000	0	80.0	74.9	118	1.800	11.8	30	

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Date: 3/15/2021



Work Order: 2103037

**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

Sulfide by SM 4500-S2-F

Sample ID: **2103037-012GDUP** SampType: **DUP** Units: **mg/L** Prep Date: **3/8/2021** RunNo: **65686** 

Client ID: MW-02S-030221 Batch ID: R65686 Analysis Date: 3/8/2021 SeqNo: 1321455

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sulfide ND 0.500 0 30

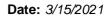
Sample ID: **2103037-012GMS** SampType: **MS** Units: **mg/L** Prep Date: **3/8/2021** RunNo: **65686** 

Client ID: MW-02S-030221 Batch ID: R65686 Analysis Date: 3/8/2021 SeqNo: 1321456

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sulfide 1.80 0.500 2.000 0 90.0 74.9 118

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

#### **Total Organic Carbon by SM 5310C**

Total Organic Carbon  ND  0.500  Sample ID: LCS-R65721 Sample ID: R65721 Sample ID: R65721 Sample ID: R65721 Sample ID: LCSW Sample ID: R65721 Sample ID: R65721 Sample ID: R65721 Sample ID: LCSW Sample ID: R65721 Sample ID: 2103037-001FDUP Client ID: MW-09S-030121 Sample ID: R65721 Sample ID: R66721	Project: W	eyer Mill E									Total Orga	anno oanbe	on by om	00100
Analyte	Sample ID: MB-R6572	21	SampType	MBLK			Units: mg/L		Prep Dat	te: <b>3/4/202</b>	21	RunNo: 657	721	
Total Organic Carbon   ND   0.500	Client ID: MBLKW		Batch ID:	R65721					Analysis Dat	te: <b>3/4/202</b>	21	SeqNo: 132	22154	
Sample ID: LCS-R65721   SampType: LCS   Units: mg/L   Prep Date: 3/4/2021   RunNo: 65721	Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Client ID: LCSW   Batch ID: R65721   Result   RL   SPK value   SPK Ref Val   SPK Ref	Total Organic Carbon			ND	0.500									
Analyte	Sample ID: LCS-R657	21	SampType	LCS			Units: mg/L		Prep Dat	te: <b>3/4/202</b>	<u>.</u>	RunNo: 657	721	
Total Organic Carbon 5.23 0.500 5.000 0 105 90 118  Sample ID: 2103037-001FDUP SampType: DUP Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Client ID: MW-09S-030121 Batch ID: R65721 SeqNo: 1322157  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Batch ID: R65721 RunNo: 65721  Sample ID: 2103037-001FMS SampType: MS Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Client ID: MW-09S-030121 Batch ID: R65721 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) SeqNo: 1322158  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 SeqNo: 1322158  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 SeqNo: 1322159  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Batch ID: R65721  Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Client ID: MW-09S-030121) Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit	Client ID: LCSW		Batch ID:	R65721					Analysis Dat	te: <b>3/4/202</b>	21	SeqNo: 132	22155	
Sample ID: 2103037-001FDUP         SampType: DUP         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721           Client ID: MW-09S-030121         Batch ID: R65721         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         0.500         4.778         2.29         20           Sample ID: 2103037-001FMS         SampType: MS         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721         RunNo: 65721         SeqNo: 1322158           Client ID: MW-09S-030121         Batch ID: R65721         Analysis Date: 3/4/2021         SeqNo: 1322158         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         GRADINITY         Result         Result         Result         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         Result         Result         Result         Result         Result         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         Republic         Republic         Republic         Republic         RunNo: 65721         RunNo: 65721         RunNo: 65721         RunNo: 65721         RunNo: 657	Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Client ID:         MW-09S-030121         Batch ID:         R65721         Analysis Date:         3/4/2021         SeqNo:         1322157           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit         0.500           Sample ID:         2103037-001FMS         SampType:         MS         Units:         mg/L         Prep Date:         3/4/2021         RunNo:         65721           Client ID:         MW-09S-030121         Batch ID:         R65721         Analysis Date:         3/4/2021         SeqNo:         1322158           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit         0.500         4.778         95.1         80.9         124<	Total Organic Carbon			5.23	0.500	5.000	0	105	90	118				
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 0  Total Organic Carbon 4.67 0.500 4.778 2.29 20  Sample ID: 2103037-001FMS SampType: MS Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Client ID: MW-09S-030121 Batch ID: R65721 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 0  Total Organic Carbon 9.53 0.500 5.000 4.778 95.1 80.9 124  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 RunNo: 65721  Client ID: MW-09S-030121 Batch ID: R65721 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 0  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 0  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Analysis Date: 3/4/2021 SeqNo: 1322159  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit 0	Sample ID: <b>2103037-</b> 0	01FDUP	SampType	DUP			Units: mg/L		Prep Dat	te: <b>3/4/202</b>	21	RunNo: 657	721	
Total Organic Carbon         4.67         0.500         4.778         2.29         20           Sample ID: 2103037-001FMS         SampType: MS         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721           Client ID: MW-09S-030121         Batch ID: R65721         Analysis Date: 3/4/2021         SeqNo: 1322158           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RPDLimit         Graph RPDLimit	Client ID: MW-09S-0	30121	Batch ID:	R65721					Analysis Dat	te: <b>3/4/202</b>	21	SeqNo: 132	22157	
Sample ID: 2103037-001FMS         SampType: MS         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721           Client ID: MW-09S-030121         Batch ID: R65721         Analysis Date: 3/4/2021         SeqNo: 1322158           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         0           Total Organic Carbon         9.53         0.500         5.000         4.778         95.1         80.9         124           Sample ID: 2103037-001FMSD         SampType: MSD         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721           Client ID: MW-09S-030121         Batch ID: R65721         Analysis Date: 3/4/2021         SeqNo: 1322159           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         0	Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Client ID:         MW-09S-030121         Batch ID:         R65721         Analysis Date:         3/4/2021         SeqNo:         1322158           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit         0           Total Organic Carbon         9.53         0.500         5.000         4.778         95.1         80.9         124           Sample ID:         2103037-001FMSD         SampType:         MSD         Units:         mg/L         Prep Date:         3/4/2021         RunNo:         65721           Client ID:         MW-09S-030121         Batch ID:         R65721         Analysis Date:         3/4/2021         SeqNo:         1322159           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLimit         0	Total Organic Carbon			4.67	0.500						4.778	2.29	20	
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Companie Carbon 9.53 0.500 5.000 4.778 95.1 80.9 124  Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 RunNo: 65721 Analysis Date: 3/4/2021 SeqNo: 1322159  Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (Companies Carbon) 9.53 0.500 5.000 4.778 95.1 80.9 124	Sample ID: <b>2103037-</b> 0	01FMS	SampType	MS			Units: mg/L		Prep Dat	te: <b>3/4/202</b>	21	RunNo: 657	721	
Total Organic Carbon         9.53         0.500         5.000         4.778         95.1         80.9         124           Sample ID: 2103037-001FMSD         SampType: MSD         Units: mg/L         Prep Date: 3/4/2021         RunNo: 65721           Client ID: MW-09S-030121         Batch ID: R65721         Analysis Date: 3/4/2021         SeqNo: 1322159           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RPDLimit         0	Client ID: MW-09S-0	30121	Batch ID:	R65721					Analysis Dat	te: <b>3/4/202</b>	21	SeqNo: 132	22158	
Sample ID: 2103037-001FMSD SampType: MSD Units: mg/L Prep Date: 3/4/2021 RunNo: 65721 Client ID: MW-09S-030121 Batch ID: R65721 SeqNo: 1322159 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (	Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Client ID: MW-09S-030121 Batch ID: R65721 Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (	Total Organic Carbon			9.53	0.500	5.000	4.778	95.1	80.9	124				
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit (	Sample ID: 2103037-0	01FMSD	SampType	MSD			Units: mg/L		Prep Dat	te: <b>3/4/202</b>		RunNo: 657	721	
	Client ID: MW-09S-0	30121	Batch ID:	R65721					Analysis Dat	te: <b>3/4/202</b>	21	SeqNo: 132	22159	
Total Organic Carbon 9.40 0.500 5.000 4.778 92.5 80.9 124 9.531 1.36 30	Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	Total Organic Carbon			9.40	0.500	5.000	4.778	92.5	80.9	124	9.531	1.36	30	

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Date: 3/15/2021



Work Order: 2103037

### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider Project: Weyer Mill E

**Total Organic Carbon by SM 5310C** 

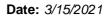
4.508

Sample ID: 2103037-015FDUP	SampType: <b>DUP</b>	Units: mg/L Prep Date	3/5/2021	RunNo: <b>65721</b>
Client ID: MW-03S-030221	Batch ID: R65721	Analysis Date	3/5/2021	SeqNo: <b>1322187</b>

Analyte %REC LowLimit HighLimit RPD Ref Val Result RL SPK value SPK Ref Val %RPD RPDLimit Qual Total Organic Carbon 4.45 0.500 1.25 20

Sample ID: 2103037-015FMS	SampType: MS			Units: mg/L		Prep Da	te: <b>3/5/202</b>	1	RunNo: 657	'21	
Client ID: MW-03S-030221	Batch ID: R65721					Analysis Da	te: <b>3/5/202</b>	1	SeqNo: 132	2188	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	9.30	0.500	5.000	4.508	95.8	80.9	124				

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider

#### **Dissolved Metals by EPA Method 200.8**

Project: Weyer Mill I	Ε						DIS	ssolved Met	als by EP	A Method	d 200.
Sample ID: MB-31553	SampType: <b>MBLK</b>			Units: µg/L		Prep Date	e: <b>3/4/202</b>	1	RunNo: 658	22	
Client ID: MBLKW	Batch ID: 31553					Analysis Date	e: <b>3/4/202</b>	1	SeqNo: 132	4191	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Iron	ND	100									
Manganese	ND	1.80									
Sample ID: <b>LCS-31553</b>	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>3/4/202</b>	1	RunNo: 658	22	
Client ID: LCSW	Batch ID: 31553					Analysis Date	e: <b>3/4/202</b>	1	SeqNo: 132	4192	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	90.8	1.00	100.0	0	90.8	85	115				
ron	993	100	1,000	0	99.3	50	150				
Manganese	94.9	1.80	100.0	0	94.9	85	115				
Sample ID: <b>2103037-001BDUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>3/4/202</b>	1	RunNo: 658	22	
Client ID: <b>MW-09S-030121</b>	Batch ID: 31553					Analysis Date	e: <b>3/4/202</b>	1	SeqNo: 132	4194	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.1	1.00						44.48	1.32	30	
ron	9,510	100						9,251	2.72	30	
Manganese	312	1.80						340.6	8.76	30	
Sample ID: <b>2103037-001BMS</b>	SampType: <b>MS</b>			Units: µg/L		Prep Date	e: <b>3/4/202</b>	1	RunNo: 658	322	
Client ID: MW-09S-030121	Batch ID: 31553					Analysis Date	e: <b>3/4/202</b>	1	SeqNo: 132	4197	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	558	1.00	500.0	44.48	103	70	130				
Iron	15,400	100	5,000	9,251	123	50	150				
Manganese	758	1.80	500.0	340.6	83.5	70	130				

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Date: 3/15/2021



Work Order: 2103037

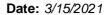
### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Dissolved Metals by EPA Method 200.8**

Sample ID: 2103037-001BMSD	SampType: MSD			Units: µg/L		Prep Dat	te: <b>3/4/202</b>	1	RunNo: 658	322	
Client ID: MW-09S-030121	Batch ID: 31553					Analysis Da	te: <b>3/4/202</b>	1	SeqNo: <b>132</b>	4198	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	556	1.00	500.0	44.48	102	70	130	558.1	0.382	30	
Iron	14,400	100	5,000	9,251	103	50	150	15,390	6.55	30	
Manganese	787	1.80	500.0	340.6	89.2	70	130	758.1	3.69	30	

Original Page 51 of 58





### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Total Metals by EPA Method 200.8**

Sample ID: MB-31541	SampType: MBLK			Units: µg/L		Prep Da	te: <b>3/3/202</b>	21	RunNo: <b>656</b>	30	
Client ID: MBLKW	Batch ID: 31541					Analysis Da	te: <b>3/3/202</b>	21	SeqNo: 132	20364	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Calcium	ND	200									
Potassium	ND	200									
Sodium	ND	200									

Sample ID: LCS-31541	SampType: <b>LCS</b>			Units: µg/L		Prep Da	te: <b>3/3/202</b>	1	RunNo: 656	30	
Client ID: LCSW	Batch ID: 31541					Analysis Da	te: <b>3/3/202</b>	1	SeqNo: <b>132</b>	0365	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.1	1.00	100.0	0	95.1	85	115				
Calcium	1,100	200	1,000	0	110	50	150				
Potassium	975	200	1,000	0	97.5	50	150				
Sodium	997	200	1,000	0	99.7	50	150				

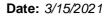
Sample ID: 2102409-001DDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Da	te: <b>3/3/202</b>	1	RunNo: 656	30	
Client ID: BATCH	Batch ID: 31541					Analysis Da	te: <b>3/3/202</b>	1	SeqNo: <b>132</b>	20367	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.16	1.00						3.913	108	30	R
Calcium	31,600	200						34,500	8.84	30	Е
Potassium	4,260	200						4,911	14.1	30	
Sodium	22,500	200						25,310	11.8	30	

#### NOTES:

Original Page 52 of 58

R - High RPD observed. The method is in control as indicated by the LCS.

E - Estimated value. The amount exceeds the linear working range of the instrument.





#### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Total Metals by EPA Method 200.8**

Sample ID: 2102409-001DMS	SampType: <b>MS</b>			Units: µg/L		Prep Da	te: <b>3/3/202</b>	21	RunNo: <b>65630</b>		
Client ID: BATCH	Batch ID: 31541					Analysis Da	te: <b>3/3/202</b>	21	SeqNo: 132	20368	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	504	1.00	500.0	3.913	99.9	70	130				
Calcium	40,300	200	5,000	34,500	116	50	150				Е
Potassium	10,200	200	5,000	4,911	105	50	150				
Sodium	31,500	200	5,000	25,310	124	50	150				Е
NOTES:											

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

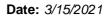
Sample ID: 2102409-001DMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>3/3/202</b>	1	RunNo: 656	30	
Client ID: BATCH	Batch ID: 31541					Analysis Da	te: <b>3/3/202</b>	1	SeqNo: <b>132</b>	0369	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	492	1.00	500.0	3.913	97.6	70	130	503.6	2.36	30	
Calcium	38,900	200	5,000	34,500	88.0	50	150	40,280	3.49	30	E
Potassium	9,760	200	5,000	4,911	97.1	50	150	10,180	4.15	30	
Sodium	28,500	200	5,000	25,310	64.2	50	150	31,510	9.97	30	Е

#### NOTES:

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: CCB-31541B	SampType: CCB			Units: µg/L		Prep Da	te: <b>3/4/202</b>	21	RunNo: 656	30	
Client ID: CCB	Batch ID: 31541					Analysis Da	te: 3/4/202	21	SeqNo: 132	20711	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.703	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									

Original Page 53 of 58





### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: Weyer Mill	E							Total Met	tals by EP	A Metho	d 200
Sample ID: MB-31562	SampType: MBLK			Units: µg/L		Prep Da	te: <b>3/5/202</b>	21	RunNo: 656	94	
Client ID: MBLKW	Batch ID: 31562					Analysis Da	te: <b>3/5/202</b>	21	SeqNo: <b>132</b>	1575	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Calcium	ND	200									
Magnesium	ND	100									
Potassium	ND	200									
Sodium	ND	200									
Sample ID: LCS-31562	SampType: <b>LCS</b>			Units: µg/L		Prep Da	te: <b>3/5/202</b>	21	RunNo: 656	94	
Client ID: LCSW	Batch ID: 31562					Analysis Da	te: <b>3/5/202</b>	21	SeqNo: 132	1576	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	104	1.00	100.0	0	104	85	115				
Calcium	924	200	1,000	0	92.4	50	150				
Magnesium	906	100	1,000	0	90.6	50	150				
Potassium	1,020	200	1,000	0	102	50	150				
Sodium	1,050	200	1,000	0	105	50	150				
Sample ID: <b>2103007-001ADUP</b>	SampType: <b>DUP</b>			Units: µg/L		Prep Da	te: <b>3/5/202</b>	<u> </u>	RunNo: 656	94	
Client ID: BATCH	Batch ID: 31562					Analysis Da	te: <b>3/5/202</b>	21	SeqNo: 132	1580	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00						1.521	63.9	30	
Calcium	4,140	200						4,195	1.38	30	
Magnesium	1,040	100						984.2	5.51	30	
Potassium	ND	200						0		30	
Sodium	6,470	200						5,892	9.38	30	

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Date: 3/15/2021



Work Order: 2103037

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Total Metals by EPA Method 200.8**

Sample ID: 2103007-001AMS	SampType: MS			Units: µg/L		Prep Da	te: <b>3/5/202</b>	1	RunNo: 656	694	
Client ID: BATCH	Batch ID: 31562					Analysis Da	te: <b>3/5/202</b>	1	SeqNo: 132	21581	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	450	1.00	500.0	1.521	89.8	70	130				
Calcium	9,100	200	5,000	4,195	98.2	50	150				
Magnesium	5,470	100	5,000	984.2	89.7	70	130				
Potassium	4,910	200	5,000	141.3	95.5	50	150				
Sodium	11,400	200	5,000	5,892	110	50	150				

Sample ID: 2103007-001AMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>3/5/202</b>	RunNo: 656	94		
Client ID: BATCH	Batch ID: 31562					Analysis Da	te: <b>3/5/202</b>	:1	SeqNo: <b>132</b>	1582	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	496	1.00	500.0	1.521	98.8	70	130	450.3	9.58	30	
Calcium	8,440	200	5,000	4,195	84.9	50	150	9,102	7.55	30	
Magnesium	5,020	100	5,000	984.2	80.7	70	130	5,469	8.62	30	
Potassium	4,690	200	5,000	141.3	91.0	50	150	4,914	4.68	30	
Sodium	10,800	200	5,000	5,892	99.1	50	150	11,370	4.70	30	

Original Page 55 of 58



## Sample Log-In Check List

С	lient Name:	FS	Work Order Numb	per: <b>2103037</b>	
L	ogged by:	Clare Griggs	Date Received:	3/2/2021 3	:10:00 PM
<u>Cha</u>	in of Cust	ody			
1.	Is Chain of C	ustody complete?	Yes 🗸	No $\square$	Not Present
2.	How was the	sample delivered?	Courier		
Log	<u>ı In</u>				
3.	Coolers are p	present?	Yes 🗸	No 🗌	NA $\square$
4.	Shipping con	tainer/cooler in good condition?	Yes 🗸	No 🗌	
5.		ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗌	Not Present <b>✓</b>
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No 🗌	NA $\square$
7.	Were all item	s received at a temperature of >2°C to 6°C *	Yes 🔽	No 🗆	NA 🗌
8.	Sample(s) in	proper container(s)?	Yes 🗸	No 🗆	
9.	Sufficient sar	nple volume for indicated test(s)?	Yes 🗸	No $\square$	
10	Are samples	properly preserved?	Yes 🗸	No $\square$	
11.	Was preserva	ative added to bottles?	Yes	No 🗸	NA $\square$
12	Is there head	space in the VOA vials?	Yes	No 🗌	NA 🗹
13.	Did all sampl	es containers arrive in good condition(unbroken)?	Yes 🗸	No $\square$	
14.	Does paperw	ork match bottle labels?	Yes 🗸	No 🗌	
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No $\square$	
16	Is it clear wha	at analyses were requested?	Yes 🗹	No $\square$	
17.	Were all hold	ing times able to be met?	Yes 🗸	No $\square$	
Spe	cial Handl	ing (if applicable)			
-		otified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
	Person	Notified: Date:			
	By Who	m: Via:	eMail Ph	one 🗌 Fax [	In Person
	Regardi	ng:			
	Client Ir	nstructions:			
19.	Additional rer	marks:			

#### **Item Information**

Item #	Temp °C
Sample 1	4.3
Sample 2	3.9
Sample 3	3.7

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

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COC 1.3 - 11 06 20

Common   C	WAYEN		3600 Fremont Ave N.	e N.	Chair	n of Cu	Chain of Custody Record	ord &	Labora	Laboratory Services Agreement	Agreement
A Sinder Metable Mark Medical Properties TAS K 2  O Union St #HOI Concentry: MARINE JOSAMMVAUSE Server NAME S. CA, MA, K, MA  Searthle, NA ABIOI Concentry: MARINE JOSAMMVAUSE Server NAME S. CA, MA, K, MA  Searthle, NA ABIOI Concentry: MARINE JOSAMMVAUSE Server NAME NAME Server Name Name Name Name Name Name Name Name	Fremon		attle, WA 98 el: 206-352-3			12021	Page:		7	aboratory Project No (internal):	<u>\</u>
LA Side   Projection TASK 2   Projection TASK 2   Projection Temps Lyn & Green Projection Tax   Projection Temps Lyn & Green Lyn & Green Projection Temps Lyn & Green Lyn & Green Lyn & Green	Analytic		x: 206-352-		prob.	lever 1	MILLE		. 10	pecial Remarks:	
Comments  Sea Attle, DA 98101  Continued by, MAP I 30,4MAV AVER SET  Sea Attle, DA 98101  Comments  Fire India Lyn & Grach & DA 9810   Sample Sample Sample Fire India Lyn & Grach & DA 9810   Sample	Floyd <									8	
Search III A 78101  Internation   Ever 14 to 1	6000	09th 1					1	72	F F	DISS. METAL	
Record Common   Sample   Sam	Seo	186 1	ō			+					
Sample Sample Sample Date Tree (Manager Co. 1) 1100 755 6 W 7 Water Wate	-206-292-	078			Report To (PM):	0	rochala		8	ample Disposal: Return to dient	Oisposal by lab (after 30 days)
Sample Sa	Fax:				PM Email: Ly	ns. Gro	chala @f	loy	rides.	Cons	
Sample Sample Sample Sample Time (Apple 1) Sample S					_		Contractor Contractor	88   N	11,		
100   1   100   1   100   1   100   1   1	Sample Name	Sample			100 (EQ.		145 (64 65) 164 (64 65)	104 (Co. 100)	133	153V	Comments
195-03022    0955   7	MW-065-030221		_				×	×		~	
75.0-30221 1130 7 11130 7 1 1 1130 7 1 1 1130 7 1 1 1130 7 1 1 1130 7 1 1 1130 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 MW-025-030221		0950		71		×	×	×	X	
1130   7   1130   7	h .		0955		-41		×	×	×		
1300   7	4 MW-055-03022)		1100		#1		*	٨	X	K	
1245   3   1245   3	122050-520-MM 5		1130		4		χ	X	×	X	
AC = Aqueous, B = Bulk, O = Other, P = Product, S = Soll, SD = Sediment, St. = Solld, w = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, Ww = Waste Water  MITCA-S RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti V Zn  (Nitrate) (Chlorigle) (Sulfitate) (O-Phosphase) (Buoridle) (Nitrate-Nitritia  Tata am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement  eterms on the front and backside of this Agreement.  Date/Time			200		4		×	×	X	X	
AG = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, St = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waster Water   Turn-dround Time   MTCA-5   RCRA-8   Priority Pollutants   TAL Individual: Ag Al As B Ba Be Ca Cd Co Co Fe Hg K Mg Mn Mo Na Ni Pb 5b Se Sr Sn Ti Ti V Zn   Standard   Next tat I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement   2 Day   Same   Standard   Next tater   Next tater   Standard   Next tater   Standard   Next tater   Standard   Next tater   Next tater   Next tater   Standard   Next tater   Next	, MW-03D-03022		1245		4		X	X	X	<i>y</i>	
AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water   Minded   M	00.							+			
AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Orinking Water, GW = Ground Water, SW = Storm Water wat	10										
MTCA-5 RCRA-8 Priority Pollutants TAL individual: Ag Al As 8 Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti V Zn   Standard   Next	latrix: A = Air, AQ = Aqueous, B = Bulk,	Other, P=Pro	duct, S = Soi	i, SD = Se		W = Water, DW		/ = Ground Wa			Turn-around Time:
That I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to the I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to the I am authorized to enter into this Agreement to this Agreement to this Agreement to this Agreement analytical on behalf of the Client named above, that I have verified Client's agreement to 2 Day (specified thurs)  Print Name Date/Time  Print Name Date/Time  Oate/Time	MTCA-5 RCRA-8	riority Pollutant	TAL	Individual	Ag Al	86 13 13 18	Cu Fe Hg K	Mn Mo	Ni Pb Sb	Sr Sn Ti Ti V	
that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement (specific eterms on the front and backside of this Agreement.    Date/Time	Authors (Circle): (Nittate Nittle)	Culoude	Children	Spiniosa	O-Friedondse	Cinonia	MICHAINIME	200			_
Print Name Date/Time Date/Time Received (Signature)  MAPIK JUSAYAN 3:2-21/1830 ×  MAPIK JUSAYAN 3:2-21/1830 ×  Received (Signature)  Print Name Date/Time Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time  Date/Time	I represent that I am authorized to each of the terms on the front and	nter into thi l backside of	s Agreeme this Agree	nt with l	Fremont Analyti	ical on behalf	of the Client name	ed above, th	at I have ve	rified Client's agreement	
More Print Name 3-2-21 13:36 Received (Signature)  Rope Man 3-2-21 13:36 Calculated Calculation 3/1/1 [5]  www.fremontanalytical.com	1	, B	JUSAYA		3-2-21/133		leceived (Signature) x		Print N		/Time
www.fremontanalytical.com	) `	OR GAT	Mant.	<i>5</i>			teceived (Signature)	2 mg	Print N	remolys	1 3/2/14 (510
	COC 1.3 - 11.06.20					w.fremon	tanalytical.c	om			/ Page 1 of



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Floyd | Snider Lynn Grochala 601 Union St., Suite 600 Seattle, WA 98101

**RE: Weyer Mill E** 

Work Order Number: 2103081

March 11, 2021

#### **Attention Lynn Grochala:**

Fremont Analytical, Inc. received 3 sample(s) on 3/4/2021 for the analyses presented in the following report.

Dissolved Metals by EPA Method 200.8
Dissolved Organic Carbon by SM 5310C
Ion Chromatography by EPA Method 300.0
Sulfide by SM 4500-S2-F
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Date: 03/11/2021



CLIENT: Floyd | Snider Work Order Sample Summary

Project: Weyer Mill E Work Order: 2103081

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2103081-001	LLMW-18S-030421	03/04/2021 11:10 AM	03/04/2021 5:34 PM
2103081-002	LLMW-18D-030421	03/04/2021 3:05 PM	03/04/2021 5:34 PM
2103081-003	MW-04D-030421	03/04/2021 3:15 PM	03/04/2021 5:34 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



#### **Case Narrative**

WO#: **2103081**Date: **3/11/2021** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

#### I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



### **Qualifiers & Acronyms**

WO#: 2103081

Date Reported: 3/11/2021

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

#### Acronyms:

%Rec - Percent Recovery

**CCB - Continued Calibration Blank** 

**CCV - Continued Calibration Verification** 

DF - Dilution Factor

**DUP - Sample Duplicate** 

**HEM - Hexane Extractable Material** 

ICV - Initial Calibration Verification

LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate

MCL - Maximum Contaminant Level

MB or MBLANK - Method Blank

MDL - Method Detection Limit

MS/MSD - Matrix Spike / Matrix Spike Duplicate

PDS - Post Digestion Spike

Ref Val - Reference Value

REP - Sample Replicate

RL - Reporting Limit

RPD - Relative Percent Difference

SD - Serial Dilution

SGT - Silica Gel Treatment

SPK - Spike

Surr - Surrogate



Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 11:10:00 AM

Project: Weyer Mill E

Lab ID: 2103081-001 Matrix: Groundwater

Client Sample ID: LLMW-18S-030421

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID: 315	574 Analyst: SS
Fluoride	ND	0.800	D	mg/L	10	3/5/2021 10:23:00 PM
Chloride	247	20.0	D	mg/L	200	3/8/2021 10:22:00 AM
Nitrite (as N)	ND	1.00	DQ*	mg/L	10	3/5/2021 10:23:00 PM
Bromide	ND	4.00	D	mg/L	10	3/5/2021 10:23:00 PM
Nitrate (as N)	ND	1.00	D	mg/L	10	3/5/2021 10:23:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/5/2021 10:23:00 PM
Sulfate	28.2	6.00	D	mg/L	10	3/5/2021 10:23:00 PM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Diluted due to matrix.

Dissolved Metals by EPA Metho	<u>d 200.8</u>			Bato	h ID: 31	593	Analyst: EH
Arsenic	24.3	1.00		μg/L	1	3/9/2	021 8:45:19 PM
Iron	113,000	100		μg/L	1	3/9/2	021 8:45:19 PM
Manganese	2,380	1.80		μg/L	1	3/9/2	021 8:45:19 PM
Total Metals by EPA Method 20	0.8			Bato	h ID: 31	583	Analyst: EH
Arsenic	26.6	1.00		μg/L	1	3/8/2	021 11:03:06 PM
Calcium	107,000	4,000	D	μg/L	20	3/11/	2021 12:47:20 PM
Magnesium	76,400	100		μg/L	1	3/8/2	021 11:03:06 PM
Potassium	18,300	200		μg/L	1	3/8/2	021 11:03:06 PM
Sodium	122,000	4,000	D	μg/L	20	3/11/	2021 12:47:20 PM
Dissolved Organic Carbon by SM 5310C				Bato	h ID: R6	5795	Analyst: SS
Organic Carbon, Dissolved	32.0	0.500		mg/L	1	3/11/	2021 1:25:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	h ID: R6	5796	Analyst: SS
Total Organic Carbon	31.2	0.500		mg/L	1	3/9/2	021 11:45:00 PM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5763	Analyst: WF
Alkalinity, Total (As CaCO3)	463	2.50		mg/L	1	3/10/	2021 10:27:48 AM

<sup>\* -</sup> Flagged value is not within established control limits.



Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 11:10:00 AM

Project: Weyer Mill E

Lab ID: 2103081-001 Matrix: Groundwater

Client Sample ID: LLMW-18S-030421

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 3.00
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM



Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 3:05:00 PM

Project: Weyer Mill E

Lab ID: 2103081-002 Matrix: Groundwater

Client Sample ID: LLMW-18D-030421

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
lon Chromatography by EPA	Method 300.0			Bato	h ID: 31	574 Analyst: SS
Fluoride	0.224	0.160	D	mg/L	2	3/8/2021 10:45:00 AM
Chloride	27.2	1.00	D	mg/L	10	3/5/2021 10:46:00 PM
Nitrite (as N)	ND	0.200	DHQ*	mg/L	2	3/8/2021 10:45:00 AM
Nitrite (as N)	ND	1.00	DQ*	mg/L	10	3/5/2021 10:46:00 PM
Bromide	ND	0.800	D	mg/L	2	3/8/2021 10:45:00 AM
Nitrate (as N)	ND	1.00	D	mg/L	10	3/5/2021 10:46:00 PM
Nitrate (as N)	ND	0.200	DH	mg/L	2	3/8/2021 10:45:00 AM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/5/2021 10:46:00 PM
Ortho-Phosphate (as P)	ND	1.05	DH	mg/L	2	3/8/2021 10:45:00 AM
Sulfate	47.0	6.00	D	mg/L	10	3/5/2021 10:46:00 PM
NOTES:						

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Diluted due to matrix.

Dissolved Metals by EPA Metho	od 200.8			Bato	h ID: 31	593	Analyst: EH
Arsenic	ND	1.00		μg/L	1	3/9/2	2021 8:50:53 PM
Iron	263	100		μg/L	1	3/9/2	2021 8:50:53 PM
Manganese	44.1	1.80		μg/L	1	3/9/2	2021 8:50:53 PM
Total Metals by EPA Method 20	00.8			Bato	ch ID: 31	583	Analyst: EH
Arsenic	2.74	1.00		μg/L	1	3/8/2	2021 11:08:39 PM
Calcium	57,100	4,000	D	μg/L	20	3/11	/2021 12:52:54 PM
Magnesium	64,800	100		μg/L	1	3/8/2	2021 11:08:39 PM
Potassium	13,100	200		μg/L	1	3/8/2	2021 11:08:39 PM
Sodium	90,800	4,000	D	μg/L	20	3/11	/2021 12:52:54 PM
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R	55795	Analyst: SS
Organic Carbon, Dissolved	8.39	0.500		mg/L	1	3/11	/2021 1:47:00 AM
Total Organic Carbon by SM 53	<u>10C</u>			Bato	h ID: R	65796	Analyst: SS
Total Organic Carbon	8.39	0.500		mg/L	1	3/10/	/2021 12:53:00 AM

<sup>\* -</sup> Flagged value is not within established control limits.



Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 3:05:00 PM

Project: Weyer Mill E

Lab ID: 2103081-002 Matrix: Groundwater

Client Sample ID: LLMW-18D-030421

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batcl	n ID: R6	5763 Analyst: WF
Alkalinity, Total (As CaCO3)	487	2.50		mg/L	1	3/10/2021 10:27:48 AM
Sulfide by SM 4500-S2-F				Batcl	n ID: R6	5738 Analyst: SS
Sulfide	5.00	0.500		mg/L	1	3/9/2021 2:18:52 PM

Original



### **Analytical Report**

Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 3:15:00 PM

Project: Weyer Mill E

Lab ID: 2103081-003 Matrix: Groundwater

Client Sample ID: MW-04D-030421

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Ion Chromatography by EPA	Method 300.0			Bato	h ID: 315	574 Analyst: SS
Fluoride	1.02	0.800	D	mg/L	10	3/5/2021 11:55:00 PM
Chloride	282	20.0	D	mg/L	200	3/8/2021 11:08:00 AM
Nitrite (as N)	ND	1.00	DQ*	mg/L	10	3/5/2021 11:55:00 PM
Bromide	ND	4.00	D	mg/L	10	3/5/2021 11:55:00 PM
Nitrate (as N)	ND	1.00	D	mg/L	10	3/5/2021 11:55:00 PM
Ortho-Phosphate (as P)	ND	5.25	D	mg/L	10	3/5/2021 11:55:00 PM
Sulfate	34.4	6.00	D	mg/L	10	3/5/2021 11:55:00 PM
NOTES:						

#### NOTES:

Diluted due to matrix.

Dissolved Metals by EPA Metho	od 200.8			Bato	h ID: 31	593	Analyst: EH
Arsenic	185	1.00		μg/L	1	3/9/2	021 8:56:27 PM
Iron	28,500	100		μg/L	1	3/9/2	021 8:56:27 PM
Manganese	603	1.80		μg/L	1	3/9/2	021 8:56:27 PM
Total Metals by EPA Method 20	<u>8.00</u>			Bato	h ID: 31	583	Analyst: EH
Arsenic	168	1.00		μg/L	1	3/8/2	021 11:14:13 PM
Calcium	35,900	4,000	D	μg/L	20	3/11/	2021 1:17:20 PM
Magnesium	15,800	100		μg/L	1	3/8/2	021 11:14:13 PM
Potassium	6,350	200		μg/L	1	3/8/2	021 11:14:13 PM
Sodium	176,000	4,000	D	μg/L	20	3/11/	2021 1:17:20 PM
Dissolved Organic Carbon by S	SM 5310C			Bato	h ID: R6	5795	Analyst: SS
Organic Carbon, Dissolved	4.50	0.500		mg/L	1	3/11/	2021 2:54:00 AM
Total Organic Carbon by SM 53	310C			Bato	h ID: R6	5796	Analyst: SS
Total Organic Carbon	4.49	0.500		mg/L	1	3/10/	/2021 1:15:00 AM
Total Alkalinity by SM 2320B				Bato	h ID: R6	5763	Analyst: WF
Alkalinity, Total (As CaCO3)	50.9	2.50		mg/L	1	3/10/	/2021 10:27:48 AM

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

<sup>\* -</sup> Flagged value is not within established control limits.



### **Analytical Report**

Work Order: **2103081**Date Reported: **3/11/2021** 

Client: Floyd | Snider Collection Date: 3/4/2021 3:15:00 PM

Project: Weyer Mill E

Lab ID: 2103081-003 Matrix: Groundwater

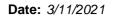
Client Sample ID: MW-04D-030421

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed

 Sulfide by SM 4500-S2-F
 Batch ID: R65738
 Analyst: SS

 Sulfide
 ND
 0.500
 mg/L
 1
 3/9/2021 2:18:52 PM

Original



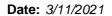


### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project: Weye	r Mill E				Tota	I Alkalinity by SM 2320B
Sample ID: MB-R65763	SampType: MBLK			Units: mg/L	Prep Date: 3/10/2021	RunNo: <b>65763</b>
Client ID: MBLKW	Batch ID: R65763				Analysis Date: 3/10/2021	SeqNo: <b>1323083</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	) ND	2.50				
Sample ID: LCS-R65763	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/10/2021	RunNo: <b>65763</b>
Client ID: LCSW	Batch ID: <b>R65763</b>				Analysis Date: 3/10/2021	SeqNo: <b>1323084</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	99.3	2.50	100.0	0	99.3 99.1 105	
Sample ID: <b>2103037-009D</b>	DUP SampType: DUP			Units: mg/L	Prep Date: 3/10/2021	RunNo: <b>65763</b>
Client ID: BATCH	Batch ID: <b>R65763</b>				Analysis Date: 3/10/2021	SeqNo: <b>1323086</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	) 119	2.50			119.4	0 20
Sample ID: <b>2103081-002C</b>	DUP SampType: DUP			Units: mg/L	Prep Date: 3/10/2021	RunNo: <b>65763</b>
Client ID: LLMW-18D-030	D421 Batch ID: R65763				Analysis Date: 3/10/2021	SeqNo: <b>1323159</b>
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	) 492	2.50			487.0	0.976 20

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider

#### **Dissolved Organic Carbon by SM 5310C**

Project: Weyer Mill	<u>E</u>				Dissolved Organic Carbon by SW 33100
Sample ID: MB-R65795	SampType: MBLK			Units: mg/L	Prep Date: <b>3/10/2021</b> RunNo: <b>65795</b>
Client ID: MBLKW	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323806
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	ND	0.500			
Sample ID: LCS-R65795	SampType: <b>LCS</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: LCSW	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323807
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	5.07	0.500	5.000	0	101 94.4 109
Sample ID: <b>2103065-008EDUP</b>	SampType: <b>DUP</b>			Units: mg/L	Prep Date: 3/10/2021 RunNo: 65795
Client ID: BATCH	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323818
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	6.50	0.500			6.503 0 20
Sample ID: <b>2103065-008EMS</b>	SampType: <b>MS</b>			Units: mg/L	Prep Date: <b>3/10/2021</b> RunNo: <b>65795</b>
Client ID: BATCH	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323819
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	11.3	0.500	5.000	6.503	96.4 80.9 124
Sample ID: 2103065-008EMSD	SampType: <b>MSD</b>			Units: mg/L	Prep Date: <b>3/10/2021</b> RunNo: <b>65795</b>
Client ID: BATCH	Batch ID: <b>R65795</b>				Analysis Date: 3/10/2021 SeqNo: 1323820
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Organic Carbon, Dissolved	11.1	0.500	5.000	6.503	92.2 80.9 124 11.32 1.87 30

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Date: 3/11/2021



Work Order: 2103081

### **QC SUMMARY REPORT**

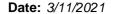
CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Dissolved Organic Carbon by SM 5310C**

Sample ID: 2103081-002EDUP	SampType: <b>DUP</b>		Units: mg/L		Prep Date: <b>3/11/2</b>	2021	RunNo: 657	795	
Client ID: <b>LLMW-18D-030421</b>	Batch ID: <b>R65795</b>				Analysis Date: 3/11/2	2021	SeqNo: 132	23831	
Analyte	Result	RL	SPK value SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	8.37	0.500				8 393	0 298	20	

Sample ID: 2103081-002EMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/11/20</b>	21	RunNo: 657	795	
Client ID: <b>LLMW-18D-030421</b>	Batch ID: R65795		Analysis Date: 3/11/2021				SeqNo: 132	23832			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	13.3	0.500	5.000	8.393	97.3	80.9	124				

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### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: MB-31574	SampType: <b>MBLK</b>		Units: mg/L			Prep Date: 3/5/2021					
Client ID: MBLKW	Batch ID: 31574					Analysis Dat	te: <b>3/5/202</b>	21	SeqNo: 132	21745	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.0800									
Chloride	ND	0.100									
Nitrite (as N)	ND	0.100									
Bromide	ND	0.400									
Nitrate (as N)	ND	0.100									
Ortho-Phosphate (as P)	ND	0.525									
Sulfate	ND	0.600									

Sample ID: LCS-31574	SampType: LCS			Units: mg/L	Prep Date: 3/5/2021			1	RunNo: 657		
Client ID: LCSW	Batch ID: 31574				Analysis Date: 3/5/2021			SeqNo: 132			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.490	0.0800	0.5000	0	98.0	90	110				
Chloride	0.723	0.100	0.7500	0	96.4	90	110				
Nitrite (as N)	0.656	0.100	0.7500	0	87.5	90	110				S
Bromide	2.29	0.400	2.500	0	91.4	90	110				
Nitrate (as N)	0.726	0.100	0.7500	0	96.8	90	110				
Ortho-Phosphate (as P)	1.52	0.525	1.250	0	122	90	110				S
Sulfate	3.74	0.600	3.750	0	99.8	90	110				

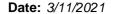
#### NOTES:

S - Outlying spike recovery observed for ortho-phosphate (high bias). Samples are non-detect for this analyte; no further action required.

S - Outlying spike recovery observed for nitrite (low bias). Samples will be qualified with a \*.

Sample ID: 2102386-001EDUP	SampType: <b>DUP</b>	UP Units:				Prep Da	te: <b>3/5/202</b>	21	RunNo: 657		
Client ID: BATCH	Batch ID: 31574		Analysis Date: 3/5/2021						SeqNo: 132	21748	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.800						0		20	D
Chloride	255	1.00						262.8	3.04	20	DE
Nitrite (as N)	ND	1.00						0		20	DHQ*

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### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: 2102386-001EDUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>3/5/202</b>	RunNo: 657				
Client ID: BATCH	Batch ID: 31574			Analysis Date: 3/5/2021						SeqNo: <b>1321748</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Bromide	ND	4.00						0		20	D	
Nitrate (as N)	1.14	1.00						1.170	2.60	20	DH	
Ortho-Phosphate (as P)	ND	5.25						0		20	DH	
Sulfate	6.99	6.00						7.540	7.57	20	D	

#### NOTES:

<sup>\* -</sup> Flagged value is not within established control limits.

Sample ID: 2102386-001EMS Client ID: BATCH	SampType: MS Batch ID: 31574			Units: mg/L	Prep Date: <b>3/5/2021</b> Analysis Date: <b>3/5/2021</b>				RunNo: 65		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	5.07	0.800	5.000	0	101	80	120				D
Chloride	274	1.00	7.500	262.8	145	80	120				DES
Nitrite (as N)	7.20	1.00	7.500	0	96.0	80	120				DH
Bromide	24.0	4.00	25.00	0	96.2	80	120				D
Nitrate (as N)	8.27	1.00	7.500	1.170	94.7	80	120				DH
Ortho-Phosphate (as P)	16.6	5.25	12.50	0	133	80	120				DSH
Sulfate	44.8	6.00	37.50	7.540	99.2	80	120				D

#### NOTES:

S - Analyte concentration was too high for accurate spike recovery(ies).

S - Outlying spike recoveries were associated with this sample.

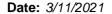
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2102386-001EMSD	SampType: MSD			Units: mg/L		Prep Da	te: <b>3/5/202</b>	:1	RunNo: 657	702		
Client ID: BATCH	Batch ID: 31574					Analysis Date: 3/5/2021				SeqNo: <b>1321750</b>		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	5.04	0.800	5.000	0	101	80	120	5.070	0.593	20	D	
Chloride	273	1.00	7.500	262.8	136	80	120	273.6	0.238	20	DES	
Nitrite (as N)	7.12	1.00	7.500	0	94.9	80	120	7.200	1.12	20	DH	

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Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

E - Estimated value. The amount exceeds the linear working range of the instrument.





### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### Ion Chromatography by EPA Method 300.0

Sample ID: 2102386-001EMSD	SampType: <b>MSD</b>			Units: mg/L		Prep Da	ate: 3/5/2021		RunNo: <b>65702</b>		
Client ID: BATCH	Batch ID: 31574					Analysis Da	te: <b>3/5/202</b>	21	SeqNo: 132	21750	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	23.9	4.00	25.00	0	95.6	80	120	24.04	0.542	20	D
Nitrate (as N)	8.27	1.00	7.500	1.170	94.7	80	120	8.270	0	20	DH
Ortho-Phosphate (as P)	17.9	5.25	12.50	0	143	80	120	16.59	7.32	20	DSH
Sulfate	44.7	6.00	37.50	7.540	99.1	80	120	44.75	0.0671	20	D

#### NOTES:

S - Analyte concentration was too high for accurate spike recovery(ies).

S - Outlying spike recoveries were associated with this sample.

E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID: 2103086-020ADUP	SampType: <b>DUP</b>			Units: mg/L		Prep Da	te: <b>3/5/202</b>	21	RunNo: 657	702	
Client ID: BATCH	Batch ID: 31574					Analysis Da	te: <b>3/6/202</b>	21	SeqNo: 132	21764	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.800						0		20	D
Chloride	7.22	1.00						7.330	1.51	20	D
Nitrite (as N)	ND	1.00						0		20	DQ*
Bromide	ND	4.00						0		20	D
Nitrate (as N)	4.85	1.00						4.930	1.64	20	D
Ortho-Phosphate (as P)	ND	5.25						0		20	D
Sulfate	7.63	6.00						7.730	1.30	20	D

#### NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

\* - Flagged value is not within established control limits.

Sample ID: 2103086-020AMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/5/202</b>	21	RunNo: 657	702	
Client ID: BATCH	Batch ID: 31574					Analysis Da	te: <b>3/6/202</b>	21	SeqNo: 132	21765	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.94	0.800	5.000	0	98.8	80	120				D
Chloride	15.5	1.00	7.500	7.330	109	80	120				D
Nitrite (as N)	6.51	1.00	7.500	0	86.8	80	120				D

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Date: 3/11/2021



Work Order: 2103081

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

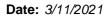
### Ion Chromatography by EPA Method 300.0

Sample ID: 2103086-020AMS	SampType: <b>MS</b>			Units: mg/L		Prep Da	te: <b>3/5/202</b>	21	RunNo: 657	702	
Client ID: BATCH	Batch ID: 31574					Analysis Da	te: <b>3/6/202</b>	21	SeqNo: <b>132</b>	21765	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	22.9	4.00	25.00	0	91.4	80	120				D
Nitrate (as N)	12.5	1.00	7.500	4.930	101	80	120				D
Ortho-Phosphate (as P)	15.4	5.25	12.50	0	123	80	120				DS
Sulfate	45.4	6.00	37.50	7.730	100	80	120				D

#### NOTES:

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S - Outlying spike recoveries were associated with this sample.





### **QC SUMMARY REPORT**

**CLIENT:** Floyd | Snider

Project:	Weyer Mill E									Sulfide b	y SM 450	0-S2-F
Sample ID:	MB-R65738	SampType: M	BLK		Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	738	
Client ID:	MBLKW	Batch ID: R	65738				Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	22465	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		N	ID 0.50	0								
Sample ID: I	LCS-R65738	SampType: <b>L</b> (	cs		Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	738	
Client ID: L	LCSW	Batch ID: R	65738				Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	22466	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		1.8	30 0.50	0 2.000	0	90.0	74.9	118				
Sample ID: 2	2103065-008GDUP	SampType: <b>D</b> l	UP		Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	738	
Client ID:	ВАТСН	Batch ID: R	65738				Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	22475	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		1.0	0.50	0					0.8000	22.2	30	
Sample ID: 2	2103065-008GMS	SampType: <b>M</b>	s		Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	738	
Client ID:	ВАТСН	Batch ID: R	65738				Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	22476	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		3.0	0.50	0 2.000	0.8000	110	74.9	118				
Sample ID: 2	2103065-008GMSD	SampType: <b>M</b>	SD		Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	738	
Client ID:	BATCH	Batch ID: R	65738				Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	22477	
Analyte		Resi	ult R	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide		2.6	0.50	0 2.000	0.8000	90.0	74.9	118	3.000	14.3	30	

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**Date:** 3/11/2021



Work Order: 2103081

**QC SUMMARY REPORT** 

CLIENT: Floyd | Snider
Project: Weyer Mill E

Sulfide by SM 4500-S2-F

Sample ID: **2103081-003GDUP** SampType: **DUP** Units: **mg/L** Prep Date: **3/9/2021** RunNo: **65738** 

Client ID: MW-04D-030421 Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 1322487

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

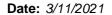
Sulfide ND 0.500 0 30

Client ID: MW-04D-030421 Batch ID: R65738 Analysis Date: 3/9/2021 SeqNo: 1322488

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sulfide 2.00 0.500 2.000 0.4000 80.0 74.9 118

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### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider

#### **Total Organic Carbon by SM 5310C**

Project:	Weyer Mill E									Total Orga	inic Carbo	on by Sivi	53 IUC
Sample ID: MB-R	65796	SampType	MBLK			Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	<b>'</b> 96	
Client ID: MBLK	XW .	Batch ID:	R65796					Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	23875	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Cart	oon		ND	0.500									
Sample ID: LCS1-	·R65796	SampType	LCS			Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	<b>'</b> 96	
Client ID: LCSW	1	Batch ID:	R65796					Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	23876	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Cart	oon		5.06	0.500	5.000	0	101	89.3	113				
Sample ID: <b>21030</b>	65-008FDUP	SampType	DUP			Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	796	
Client ID: BATC	Н	Batch ID:	R65796					Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	23890	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Cart	oon		6.63	0.500						6.696	0.975	20	
Sample ID: <b>21030</b>	65-008FMS	SampType	MS			Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	<b>'</b> 96	
Client ID: BATC	Н	Batch ID:	R65796					Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	23891	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Cart	oon		11.3	0.500	5.000	6.696	92.9	69.1	120				
Sample ID: <b>21030</b>	65-008FMSD	SampType	MSD			Units: mg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	796	
Client ID: BATC	н	Batch ID:	R65796					Analysis Date	e: <b>3/9/202</b>	1	SeqNo: 132	23892	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carl	oon		11.2	0.500	5.000	6.696	90.2	69.1	120	11.34	1.17	30	

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**Date:** 3/11/2021



Work Order: 2103081

#### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

**Total Organic Carbon by SM 5310C** 

Sample ID: **2103081-001FDUP** SampType: **DUP** Units: **mg/L** Prep Date: **3/10/2021** RunNo: **65796** 

Client ID: **LLMW-18S-030421** Batch ID: **R65796** Analysis Date: **3/10/2021** SeqNo: **1323867** 

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

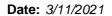
Total Organic Carbon 31.5 0.500 31.24 0.746 20

Client ID: LLMW-18S-030421 Batch ID: R65796 Analysis Date: 3/10/2021 SeqNo: 1323868

Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 36.0 0.500 5.000 31.24 95.2 69.1 120

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Iron

Manganese

### **QC SUMMARY REPORT**

## CLIENT: Floyd | Snider

### **Dissolved Metals by EPA Method 200.8**

Project: Weyer Mill	E						Dis	solved Me	tals by EP	A Method	d 200.
Sample ID: <b>MB-31593</b>	SampType: MBLK			Units: µg/L		Prep Date	e: <b>3/9/202</b>	:1	RunNo: 657	759	
Client ID: MBLKW	Batch ID: 31593					Analysis Date	e: <b>3/9/202</b>	:1	SeqNo: 132	22962	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00									
Iron	ND	100									
Manganese	ND	1.80									
Sample ID: LCS-31593	SampType: <b>LCS</b>			Units: µg/L		Prep Date	e: <b>3/9/202</b>	<u></u> :1	RunNo: 657	759	
Client ID: LCSW	Batch ID: 31593					Analysis Date	e: <b>3/9/202</b>	:1	SeqNo: 132	22963	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	1.00	100.0	0	101	85	115				
Iron	969	100	1,000	0	96.9	50	150				
Manganese	96.3	1.80	100.0	0	96.3	85	115				
Sample ID: 2103061-001CDUP	SampType: <b>DUP</b>			Units: µg/L		Prep Date	e: <b>3/9/202</b>	<u> </u>	RunNo: 657	759	
Client ID: BATCH	Batch ID: 31593					Analysis Date	e: <b>3/9/202</b>	:1	SeqNo: 132	22965	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00						5.298	153	30	R
Iron	ND	100						0		30	
Manganese	67.5	1.80						65.12	3.66	30	
NOTES:											
R - High RPD observed. The me	ethod is in control as indica	ited by the L	.CS.								
Sample ID: 2103061-001CMS	SampType: MS			Units: µg/L		Prep Date	e: <b>3/9/202</b>	1	RunNo: 657	759	
Client ID: BATCH	Batch ID: 31593					Analysis Date	e: <b>3/9/202</b>	:1	SeqNo: 132	22966	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	539	1.00	500.0	5.298	107	70	130				

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32.84

65.12

103

101

50

70

150

130

5,190

568

100

1.80

5,000

500.0

Date: 3/11/2021



Work Order: 2103081

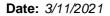
### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Weyer Mill E

### **Dissolved Metals by EPA Method 200.8**

Sample ID: 2103061-001CMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>3/9/202</b>	1	RunNo: 657	759	
Client ID: BATCH	Batch ID: 31593	RL SPK value SPK Ref Val				Analysis Da	te: <b>3/9/202</b>	1	SeqNo: 132	22969	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	544	1.00	500.0	5.298	108	70	130	538.8	1.03	30	
Iron	4,980	100	5,000	32.84	98.9	50	150	5,185	4.06	30	
Manganese	572	1.80	500.0	65.12	101	70	130	567.8	0.721	30	

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### **QC SUMMARY REPORT**

# CLIENT: Floyd | Snider Project: Wever Mill F

### **Total Metals by EPA Method 200.8**

Sample ID: MB-31583	SampType: MBLK			Units: µg/L		Prep Date: 3/8/2	2021	RunNo: <b>657</b>	90	
Client ID: MBLKW	Batch ID: 31583					Analysis Date: 3/8/2	2021	SeqNo: <b>132</b>	3697	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLim	nit RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00								
Calcium	ND	200								
Magnesium	ND	100								
Potassium	ND	200								
Sodium	ND	200								
Sample ID: LCS-31583	SampType: <b>LCS</b>			Units: µg/L		Prep Date: 3/8/2	2021	RunNo: <b>657</b>	90	

Sample ID: LCS-31583	SampType: <b>LCS</b>			Units: µg/L		Prep Da	te: <b>3/8/202</b>	1	RunNo: 657		
Client ID: LCSW	Batch ID: 31583					Analysis Da	te: <b>3/8/202</b>	1	SeqNo: 132	23698	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	102	1.00	100.0	0	102	85	115				
Calcium	1,030	200	1,000	0	103	50	150				
Magnesium	1,070	100	1,000	0	107	50	150				
Potassium	962	200	1,000	0	96.2	50	150				
Sodium	1,050	200	1,000	0	105	50	150				

Sample ID: 2103073-001ADUP	SampType: <b>DUP</b>		Units: μg/L	Prep Date: 3/8	3/2021	RunNo: <b>657</b>	790	
Client ID: BATCH	Batch ID: 31583			Analysis Date: 3/8	3/2021	SeqNo: 132	23700	
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighL	imit RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.00			2.003	118	30	R
Calcium	9,080	200			8,594	5.47	30	
Magnesium	1,240	100			1,240	0.117	30	
Potassium	792	200			745.7	6.06	30	
Sodium	15,100	200			14,620	3.42	30	
NOTEO								

NOTES:

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R - High RPD observed. The method is in control as indicated by the LCS.

Date: 3/11/2021



Work Order: 2103081

### **QC SUMMARY REPORT**

CLIENT: Floyd | Snider
Project: Weyer Mill E

### **Total Metals by EPA Method 200.8**

Sample ID: 2103073-001AMS	SampType: <b>MS</b>			Units: µg/L	·				RunNo: 657	790	
Client ID: BATCH	Batch ID: 31583					Analysis Da	te: 3/8/202	21	SeqNo: 132	23701	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	515	1.00	500.0	2.003	103	70	130				
Calcium	13,600	200	5,000	8,594	100	50	150				
Magnesium	6,350	100	5,000	1,240	102	70	130				
Potassium	6,000	200	5,000	745.7	105	50	150				
Sodium	19,700	200	5,000	14,620	102	50	150				

Sample ID: 2103073-001AMSD	SampType: <b>MSD</b>			Units: µg/L		Prep Da	te: <b>3/8/202</b>	:1	RunNo: 657	<b>'90</b>	
Client ID: BATCH	Batch ID: 31583					Analysis Da	te: <b>3/8/202</b>	:1	SeqNo: 132	23702	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	516	1.00	500.0	2.003	103	70	130	515.0	0.145	30	
Calcium	13,900	200	5,000	8,594	106	50	150	13,600	2.20	30	
Magnesium	6,270	100	5,000	1,240	101	70	130	6,352	1.28	30	
Potassium	5,610	200	5,000	745.7	97.4	50	150	5,999	6.62	30	
Sodium	19,700	200	5,000	14,620	101	50	150	19,730	0.199	30	

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### Sample Log-In Check List

С	lient Name:	FS	Work Order Number	er: <b>2103081</b>		
Lo	ogged by:	Gabrielle Coeuille	Date Received:	3/4/2021 5	5:34:00 PM	
Cha	in of Cust	odv				
		ustody complete?	Yes 🗸	No 🗌	Not Present	
2.	How was the	sample delivered?	<u>Client</u>			
Log	ı İn					
_	Coolers are p	oresent?	Yes 🗸	No 🗆	NA $\square$	
٥.	occioio dio p	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.00		101	
4.	Shipping con	tainer/cooler in good condition?	Yes 🗹	No $\square$		
5.	Custody Seal (Refer to com	ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗌	Not Present 🗹	
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No 🗌	NA $\square$	
7.	Were all item	s received at a temperature of >2°C to 6°C *	Yes 🗸	No 🗆	NA 🗆	
8.	Sample(s) in	proper container(s)?	Yes 🗸	No $\square$		
9.	Sufficient sar	mple volume for indicated test(s)?	Yes 🗹	No $\square$		
10.	Are samples	properly preserved?	Yes 🗸	No $\square$		
11.	Was preserva	ative added to bottles?	Yes 🗸	No $\square$	NA $\square$	
				HNO3, Na	OH, ZN ACETATE	
		space in the VOA vials?	Yes 🗆	No 🗀	NA 🗹	
	·	es containers arrive in good condition(unbroken)?	Yes 🗹	No $\square$		
14.	Does paperw	ork match bottle labels?	Yes 🗸	No 🗀		
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No $\square$		
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No 🗌		
17.	Were all hold	ling times able to be met?	Yes 🗸	No 🗌		
Sne	cial Handl	ing (if applicable)				
		otified of all discrepancies with this order?	Yes	No $\square$	NA 🗸	
		Notified: Date	2.			
	By Who		,	ne 🗌 Fax [	In Person	
	Regardi	<u> </u>		пе 🗌 гах [		
		nstructions:				
10	Additional rer					
		nano.				
ltem	<u>Information</u>	Item # Temp °C				
		Item # Temp °C				

2.8

Sample 1

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

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COC 1.3 - 11.06.20

## Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report

# Appendix C Anoxic Soil Analytical Data

FLOYDISNIDER Former Mill E/Koppers Facility

Table C.1 **Soil Mineralogy Results** 

						XRD Mineralogy								XRF Results (%)									
				Analyte		Plagioclase Feldspar ((Na,Ca)Al(Si,Al) <sub>3</sub> O <sub>8</sub> )	_	Clinoamphibole ((Na,K)(Ca,Na) <sub>2</sub> (Mg,Fe, Al) <sub>5</sub> (Si,Al) <sub>8</sub> O <sub>22</sub> (OH,F) <sub>2</sub> )	Chlorite ((Mg,Fe,Al) <sub>6</sub> (Si, Al) <sub>4</sub> O <sub>10</sub> (OH) <sub>8</sub> )	Mica/illite ((K,Na,Ca)(AI,Mg, Fe) <sub>2</sub> (Si,AI) <sub>4</sub> O <sub>10</sub> (OH,F) <sub>2</sub> )	Pyrite (FeS <sub>2</sub> )	Unidentified	Al <sub>2</sub> O <sub>3</sub>	BaO	CaO	CI	Fe <sub>2</sub> O <sub>3</sub>	K₂O	MgO	MnO	Na <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	
				Unit	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Sample Location	Min Depth (feet bgs)	Max Depth (feet bgs)	Sample Type	Qualifier																			
MW-03	21	22	Deep		37	38	<3	<5	9	9		<5											
MW-04	4.8	5.8	Shallow		37	36	<5	<5	9	8	_	<5											
MW-04	7.5	8.4	Aquitard		32	35	<3	5	13	9	<1	<5											
MW-04	12.7	13.7	Deep		43	34	<3	<3	9	7	_	<5											
MW-04	18.6	19.6	Deep	NonMag	46	36	<3	<3	6	7	_	<5	12.2	0.05	2.15	<0.02	2.61	1.4	1.28	0.04	3.34	0.11	
MW-04	18.6	19.6	Deep	Mag	20	38	<3	9	20	7	(1)	<5	14.8	0.04	4.22	0.03	8.24	1.35	4.46	0.16	2.72	0.23	
MW-05	4.2	5.2	Shallow		42	36	<3	<3	8	7	_	<5											
MW-05	6.5	7.5	Aquitard		25	38	<3	6	16	9	<2	<5											
MW-05	11.8	12.8	Deep		37	38	<3	<5	10	9		<5											
MW-06	6.7	7.7	Shallow		40	37	<3	<5	8	8	_	<5											
MW-06	9.3	10	Aquitard		32	36	<3	6	14	7	_	<5											
MW-06	12	13	Deep		40	36	<3	<3	9	7		<5											
MW-06	18.1	19.1	Deep	NonMag	45	34	<5	<3	7	6		<5	11.5	0.04	2.15	<0.02	3.84	1.24	1.79	0.06	3.06	0.15	
MW-06	18.1	19.1	Deep	Mag	18	42	<5	12	14	7		<5	14.5	0.04	4.08	0.03	7.16	1.31	3.64	0.13	3.3	0.22	
MW-07	6.1	7.1	Shallow		37	39	<5	<3	10	7		<5											
MW-10	6.5	7.5	Shallow	NonMag	40	36	<5	<3	8	7	_	<5	12.3	0.05	2.28	<0.02	2.89	1.43	1.51	0.04	3.18	0.12	
MW-10	6.5	7.5	Shallow	Mag	23	33	<5	15	16	8	_	<5	15.6	0.04	4.13	0.02	8.58	1.39	5.05	0.16	2.89	0.21	

Notes:

Mag = magnetically-separated fraction; NonMag = non-magnetically-separated fraction.

1 Pyrite identified in SEM.

Abbreviations:

bgs Below ground surface

mg/kg Milligrams per kilogram

FLOYD | SNIDER

Table C.1
Soil Mineralogy Results

					XRF Re	esults (%; cont.) XRF Results (mg/kg)																			
				Analyte	S	SiO <sub>2</sub>	TiO <sub>2</sub>	As	Co	Cr	Cu	Mo	Nb	Ni	Pb	Rb	Sn	Sr	Th	U	v	w	Υ	Zn	Zr
				Unit	%	%	%		mg/kg		mg/kg	mg/kg	mg/kg							_	mg/kg		•		
Sample	Min	Max			70	70	70	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116	1116/116
Locatio	Depth	Depth	Sample																						i
n	(feet bgs)	(feet bgs)	Туре	Qualifier																					İ
MW-03	21	22	Deep																						
MW-04	4.8	5.8	Shallow																						
MW-04	7.5	8.4	Aquitard																						
MW-04	12.7	13.7	Deep																						
MW-04	18.6	19.6	Deep	NonMag	0.18	74.9	0.27	<20	<10	160	14	<10	<10	22	<10	31	<20	221	<10	<10	55	<10	12	33	73
MW-04	18.6	19.6	Deep	Mag	0.17	53.2	0.94	<20	<10	175	31	<10	<10	64	<10	33	<20	207	<10	<10	176	<10	32	105	124
MW-05	4.2	5.2	Shallow																						
MW-05	6.5	7.5	Aquitard																						
MW-05	11.8	12.8	Deep																						
MW-06	6.7	7.7	Shallow																						
MW-06	9.3	10	Aquitard																						
MW-06	12	13	Deep																						
MW-06	18.1	19.1	Deep	NonMag	0.37	70.1	0.39	<20	<10	90	20	<10	<10	26	<10	27	<20	198	<10	<10	68	<10	14	41	96
MW-06	18.1	19.1	Deep	Mag	0.44	55.1	0.84	21	<10	158	33	<10	<10	46	<10	31	<20	205	<10	<10	160	<10	27	89	126
MW-07	6.1	7.1	Shallow																						
MW-10	6.5	7.5	Shallow	NonMag	0.07	68.8	0.34	34	<10	96	18	<10	<10	28	<10	31	<20	228	<10	<10	65	<10	12	39	87
MW-10	6.5	7.5	Shallow	Mag	0.13	55.3	1.01	51	<10	259	39	<10	<10	70	<10	34	<20	196	<10	<10	179	<10	32	112	132

#### Notes:

Mag = magnetically-separated fraction; NonMag = non-magnetically-separated fraction.

1 Pyrite identified in SEM.

#### Abbreviations:

bgs Below ground surface mg/kg Milligrams per kilogram F L O Y D | S N I D E R

Table C.2
Arsenic Specification and SEP Results

Sample   Mark						Arsenic S	peciatio	n				Arsenic)				SEP (Iron) SEP (Manganese)						Other					
Name   Name				Analyte	As(III)	As(V)	MMAs	DMAs	As	As(WEN1)	As(WEN2)	As(WEN3)	As(WEN4)			Fe(WEN1)	Fe(WEN2)	Fe(WEN3)	Fe(WEN4)						%TS		
Sample   Contain   Conta				Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
Decision   New Part		Min	Max																								
May   May	Sample	Depth	Depth	Sample																							
MW-02	Location		(feet bgs)																								
MW-Q2   3.8																											
MW-02   6.8   7   Shellow																											
No. 10   N			_																								
MW-03   2   2   5   Shallow   NW-04   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   Deep   NW-05   2   2   2   2   Deep   NW-05   2   2   2   2   2   2   2   2   2	MW-02	6.8																									
MW-03   5   5.5   Shallow	MW-02	8.5		Shallow																							
MW-03   21   22   Deep   0.304   0.558   0.003   0.003   3.86   0.038   0.094   0.662   0.164   2.67   20.700   40.1   135   1140   408   19.300   269   0.924   0.794   3.08   3.03   283   82.31	MW-03	2																									
NW-03   22   23	MW-03	5		Shallow																							
MW-04   4.8   5.8   Shallow   Shal	-			Deep																							
MW-04   6   6.5   Shallow   Shallo				•																•							82.36
MW-04 12.7 13.7 Deep 2.00 1.56 <0.002 <0.003 16.1 1.00 1.98 1.16 0.336 9.14 19.00 497 18.20 32 3280 1490 21.200 32 13.8 5.69 13.5 13.4 260 73.96 MW-04 18.6 19.6 Deep 2.00 1.56 <0.002 <0.002 14.9 0.262 0.592 2.26 0.477 8.94 19.300 116 256 1700 497 18.200 287 2.70 1.93 4.98 4.54 266 87.14 MW-05 4.2 5.2 Shallow 10.1 53.3 <0.002 <0.002 10.3 0.257 9.56 55.4 5.76 18.9 27.700 2.67 5.06 2300 985 17.900 371 3.52 2.31 9.33 5.12 244 92.05 MW-05 6.5 7.5 Aguitard 1.04 1.88 0.009 <0.004 14.0 0.955 1.29 1.04 0.214 9.74 29.200 20.2 144 1900 1910 25,200 388 2.25 2.17 9.16 14.6 320 61.14 MW-06 5 5 5.5 Shallow 10.1 53.3 <0.002 <0.002 9.89 0.173 0.440 0.999 0.386 8.34 20.100 64.4 205 1360 495 22.200 275 6.65 3.44 4.41 3.92 324 84.75 MW-06 5 6.7 7.7 Shallow 0.544 2.39 <0.002 <0.002 6.28 0.183 0.426 0.942 0.499 4.01 17,700 3.51 4.24 522 827 15,800 245 1.48 0.772 2.49 4.47 231 82.85 MW-06 12 13 Deep 0.580 0.781 <0.002 <0.002 6.87 0.075 0.154 0.598 0.169 4.87 22,800 89.1 229 1270 513 18.800 330 3.27 2.14 4.15 4.65 272 84.95 MW-07 6.1 7.1 Shallow 7.12 7.86 <0.002 <0.002 6.87 0.79 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 7 Shallow 7.12 7.86 <0.002 <0.002 6.87 0.79 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 7 Shallow 7.12 7.86 <0.002 <0.002 6.87 0.79 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 7 Shallow 7.12 7.86 <0.002 <0.002 7.97 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 <0.002 <0.002 7.97 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 <0.002 <0.002 7.97 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 <0.002 0.002 7.97 1.37 3.50 7.35 2.37 43.2 17,700 5.99 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.8	-				0.662	11.7	<0.002	<0.002	19.6	0.048	1.31	8.54	2.00	5.58	19,400	2.52	4.70	1440	1040	17,700	270	1.03	0.444	7.04	4.17	255	89.33
MW-04 12.7   13.7   Deep   2.00   1.56   <0.002   0.002   14.9   0.262   0.592   2.26   0.477   8.94   19.300   116   256   1700   497   18.200   287   2.70   1.93   4.98   4.54   266   87.14   MW-05   4.2   5.2   Shallow   10.1   53.3   <0.002   0.002   10.3   0.257   9.56   55.4   5.76   18.9   27.700   2.67   5.06   2300   985   17.900   371   3.52   2.31   9.33   5.12   244   92.07   MW-05   5.5   5.5   Shallow   10.1   53.3   0.002   0.002   10.3   0.257   9.56   55.4   5.76   18.9   27.700   2.67   5.06   2300   985   17.900   371   3.52   2.31   9.33   5.12   244   92.07   MW-05   5.5   5.5   Shallow   1.88   0.009   0.004   14.0   0.955   1.29   1.04   0.214   9.74   29.200   20.2   144   1900   1910   25.200   338   2.25   2.17   9.16   14.6   320   61.14   MW-05   11.8   12.8   Deep   1.05   0.947   0.002   0.002   9.89   0.173   0.440   0.999   0.386   8.34   20.100   64.4   205   1360   495   22.200   275   6.65   3.44   4.41   3.92   324   84.74   MW-06   6.7   7.5   Shallow   1.88   0.009   0.002   6.28   0.183   0.426   0.942   0.499   4.01   17.700   3.51   4.24   522   8.77   15.800   245   1.48   0.772   2.49   4.47   231   82.85   MW-06   8.5   8.9   Shallow   1.000   0.544   2.39   0.002   0.002   6.87   0.075   0.154   0.598   0.169   4.87   2.2800   89.1   2.29   1.700   513   18.800   330   3.27   2.14   4.15   4.65   2.72   84.95   MW-06   12   13   Deep   0.580   0.781   0.002   0.002   6.87   0.075   0.154   0.598   0.169   4.87   2.2800   89.1   2.29   1.700   513   18.800   330   3.27   2.14   4.15   4.65   2.72   84.95   MW-07   6.1   7.1   Shallow   7.12   7.86   0.002   0.002   0.002   0.797   1.37   3.50   7.35   2.37   43.2   21.700   59.9   2.36   2.020   6.52   17.000   283   5.83   2.68   5.34   5.26   244   86.95   MW-07   6.5   7   Shallow   7.12   5.86																											
MW-05   4.2   5.2   Shallow   Shal	-																		ł								73.90
MW-05	MW-04			Deep	2.00	1.56	<0.002	<0.002	14.9	0.262	0.592	2.26	0.477	8.94	19,300	116	256	1700	497	18,200	287	2.70	1.93	4.98	4.54	266	87.16
MW-05				•																							
MW-05   5   5.5   Shallow   Shallo																											
MW-05 6.5 7.5 Aquitard 1.04 1.88 0.009 <0.004 14.0 0.955 1.29 1.04 0.214 9.74 29.20 20.2 144 1900 1910 25.200 338 2.25 2.17 9.16 14.6 320 61.18 MW-05 11.8 12.8 Deep 1.05 0.947 <0.002 <0.002 9.89 0.173 0.440 0.999 0.386 8.34 20.10 64.4 205 1360 495 22.200 275 6.65 3.44 4.41 3.92 324 84.76 MW-06 5 5.5 Shallow MW-06 7 7.5 Shallow 0.544 2.39 <0.002 <0.002 6.28 0.183 0.426 0.942 0.499 4.01 17,700 3.51 4.24 522 827 15,800 245 1.48 0.772 2.49 4.47 231 82.85 MW-06 9.3 10 Aquitard 0.793 2.57 0.011 <0.003 17.2 0.779 1.75 1.28 0.189 10.1 28,200 11.2 86.3 1630 1780 25,700 345 12.6 6.70 13.9 15.8 296 68.94 MW-06 12 13 Deep 0.580 0.781 <0.002 <0.002 6.87 0.075 0.154 0.598 0.169 4.87 22,800 89.1 229 1270 513 18,800 330 3.27 2.14 4.15 4.65 272 84.95 MW-07 4.5 5 Shallow MW-07 6.1 7.1 Shallow 7.12 7.86 <0.002 <0.002 79.7 1.37 3.50 7.35 2.37 43.2 21,700 59.9 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 4.86 95 MW-07 6.5 7 Shallow NW-07 6.5 7 Shallow NW-07 6.5 7 Shallow NW-07 6.5 7 Shallow NW-08 Shallow NW-08 Shallow NW-08 Shallow NW-09 3.5 4 Shallow NW-09 3.5 4 Shallow NW-09 6.5 7 Shallow		4.5			10.1	53.3	<0.002	<0.002	103	0.257	9.56	55.4	5.76	18.9	27,700	2.67	5.06	2300	985	17,900	371	3.52	2.31	9.33	5.12	244	92.07
MW-05         11.8         12.8         Deep         1.05         0.947         <0.002         <0.002         <0.002         9.89         0.173         0.440         0.999         0.386         8.34         20,100         64.4         205         1360         495         22,200         275         6.65         3.44         4.41         3.92         324         84.76           MW-06         5         5.5         Shallow																											
MW-06 5 5.5 Shallow				-										_						· · · · · · · · · · · · · · · · · · ·			2.17				61.18
MW-06         7         7.5         Shallow         0.544         2.39         <0.002         6.28         0.183         0.426         0.942         0.499         4.01         17,700         3.51         4.24         522         827         15,800         245         1.48         0.772         2.49         4.47         231         82.85           MW-06         8.5         8.9         Shallow         0.793         2.57         0.011         <0.003         17.5         1.28         0.189         10.1         28,200         11.2         86.3         1630         1780         25,700         345         12.6         6.70         13.9         15.8         296         68.9           MW-06         12         13         Deep         0.580         0.781         <0.002         <0.002         6.154         0.598         0.169         4.87         22,800         89.1         229         1270         513         18,800         330         3.27         2.14         4.15         4.65         272         84.93           MW-06         18.1         19.1         Deep         0.58         0.02         0.075         0.154         0.598         0.169         4.87         22,800 <t< td=""><td></td><td>11.8</td><td></td><td>-</td><td>1.05</td><td>0.947</td><td>&lt;0.002</td><td>&lt;0.002</td><td>9.89</td><td>0.173</td><td>0.440</td><td>0.999</td><td>0.386</td><td>8.34</td><td>20,100</td><td>64.4</td><td>205</td><td>1360</td><td>495</td><td>22,200</td><td>275</td><td>6.65</td><td>3.44</td><td>4.41</td><td>3.92</td><td>324</td><td>84.76</td></t<>		11.8		-	1.05	0.947	<0.002	<0.002	9.89	0.173	0.440	0.999	0.386	8.34	20,100	64.4	205	1360	495	22,200	275	6.65	3.44	4.41	3.92	324	84.76
MW-06 6.7 7.7 Shallow 0.544 2.39 <0.002 <0.002 6.28 0.183 0.426 0.942 0.499 4.01 17,700 3.51 4.24 522 827 15,800 245 1.48 0.772 2.49 4.47 231 82.88		5																									
MW-06         8.5         8.9         Shallow         Image: Control of the contro																											
MW-06 9.3 10 Aquitard 0.793 2.57 0.011 <0.003 17.2 0.779 1.75 1.28 0.189 10.1 28,200 11.2 86.3 1630 1780 25,700 345 12.6 6.70 13.9 15.8 296 68.94 MW-06 12 13 Deep 0.580 0.781 <0.002 <0.002 6.87 0.075 0.154 0.598 0.169 4.87 22,800 89.1 229 1270 513 18,800 330 3.27 2.14 4.15 4.65 272 84.95 MW-06 18.1 19.1 Deep No. Shallow 7.12 7.86 <0.002 <0.002 79.7 1.37 3.50 7.35 2.37 43.2 21,700 59.9 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow No. Shallow		6.7			0.544	2.39	<0.002	<0.002	6.28	0.183	0.426	0.942	0.499	4.01	17,700	3.51	4.24	522	827	15,800	245	1.48	0.772	2.49	4.47	231	82.85
MW-06         12         13         Deep         0.580         0.781         <0.002         <0.002         6.87         0.075         0.154         0.598         0.169         4.87         22,800         89.1         229         1270         513         18,800         330         3.27         2.14         4.15         4.65         272         84.92           MW-06         18.1         19.1         Deep <th< td=""><td>MW-06</td><td>8.5</td><td>8.9</td><td>Shallow</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	MW-06	8.5	8.9	Shallow																							
MW-06	MW-06	9.3	10	Aquitard	0.793	2.57	0.011	<0.003	17.2	0.779		1.28	0.189	10.1		11.2	86.3	1630	1780	25,700	345	12.6	6.70	13.9			68.94
MW-07 4.5 5 Shallow				•	0.580	0.781	<0.002	<0.002	6.87	0.075	0.154	0.598	0.169	4.87	22,800	89.1	229	1270	513	18,800	330	3.27	2.14	4.15	4.65	272	84.91
MW-07 6.1 7.1 Shallow 7.12 7.86 <0.002 <0.002 79.7 1.37 3.50 7.35 2.37 43.2 21,700 59.9 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 <0.002 79.7 1.37 3.50 7.35 2.37 43.2 21,700 59.9 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 Shallow 7.12 7.86 <0.002 79.7 1.37 3.50 7.35 2.37 43.2 21,700 59.9 236 2020 652 17,000 283 5.83 2.68 5.34 5.26 244 86.95 MW-07 6.5 7 Shallow 7.12 7.86 Shallo	MW-06	18.1	19.1	Deep																							
MW-07 6.5 7 Shallow		4.5	_	Shallow																							
MW-10 3.5 4 Shallow	MW-07	6.1	7.1	Shallow	7.12	7.86	<0.002	<0.002	79.7	1.37	3.50	7.35	2.37	43.2	21,700	59.9	236	2020	652	17,000	283	5.83	2.68	5.34	5.26	244	86.95
	MW-07	6.5	7	Shallow																							
MW-10   6.5   7.5   Shallow	MW-10	3.5	•	Shallow																							
	MW-10	6.5	7.5	Shallow		, and the second																					

Abbreviations:

bgs Below ground surface mg/kg Milligrams per kilogram

Table C.3
Soil Adsorption Capacity Results

				Analyte		Arso	enic			р	Н	
			Soil to Li	quid Ratio	1:4	1:10	1:50	1:200	1:4	1:10	1:50	1:200
				Unit	μg/L	μg/L	μg/L	μg/L				
Sample	Min Depth	Max Depth	Sample	Time								
Location	(feet bgs)	(feet bgs)	Type	(hours)								
MW-03D	22	23	Deep	168	120	256	759	894	6.93	7.11	6.96	6.84
MW-04D	4.8	5.8	Shallow	48			790				5.42	
MW-04D	4.8	5.8	Shallow	96			746				5.49	
MW-04D	4.8	5.8	Shallow	168	104	279	723	845	5.77	5.76	5.70	5.71
MW-04D	7.5	8.4	Aquitard	168	154	189	262	178	6.53	6.60	6.26	6.43
MW-04D	12.7	13.7	Deep	48			656				6.13	
MW-04D	12.7	13.7	Deep	96			567				6.06	
MW-04D	12.7	13.7	Deep	168	177	120	324	785	6.60	6.50	6.44	6.47
MW-05D	4.5	5.2	Shallow	168	58	120	452	746	6.72	6.89	6.77	6.62
MW-05D	6.5	7.5	Aquitard	168	455	414	765	747	6.95	7.07	7.04	6.91
MW-05D	11.8	12.8	Deep	168	148	179	606	868	6.64	6.65	6.62	6.43
MW-06D	6.7	7.7	Shallow	168	193	328	716	883	6.72	6.80	6.64	6.72
MW-06D	9.3	10	Aquitard	168	477	509	739	814	6.53	6.57	6.65	6.73
MW-06D	12	13	Deep	168	122	228	597	874	6.60	6.77	6.67	6.69
MW-07D	6.1	7.1	Shallow	168	478	452	589	885	6.67	6.71	6.80	6.74

Abbreviations:

bgs Below ground surface µg/L Micrograms per liter

### FLOYDISNIDER

Table C.4
General Chemistry Results

								Total		Total
				<b>.</b> • .			C 16:1	Organic	C 16.1	Organic
				Arsenic	Iron	Manganese	Sulfide	Carbon	Sulfide	Carbon
Camada	Nain Danah	Ban Danth	Unit	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	%
Sample	Min Depth	-	Sample							
Location	(feet bgs)	(feet bgs)	Туре	4.00	46 400	22.4		0.075		
MW-01	7.5	8	Shallow	4.98	16,400	234	<5.89	<0.075		
MW-01	9	9.5	Shallow							
MW-02	3.8	4.1	Shallow	8.35						
MW-02	6.8	7	Shallow	31.8	22,700	310	<5.14	<0.075		
MW-02	8.5	8.8	Shallow	19.2			_			
MW-03	2	2.5	Shallow	85.6	20,400	318	<5.31	0.408		
MW-03	5	5.5	Shallow	29						
MW-03	22	23	Deep						<5.97	<0.15
MW-04	4.8	5.8	Shallow						<5.62	<0.15
MW-04	6	6.5	Shallow	7.99	18,100	281	<5.96	<0.075		
MW-04	7.5	8.4	Aquitard						<6.51	0.342
MW-04	12.7	13.7	Deep						<5.84	<0.15
MW-04	18.6	19.6	Deep							
MW-05	4.2	5.2	Shallow						<5.41	<0.15
MW-05	4.5	5.2	Shallow							
MW-05	5	5.5	Shallow	29.8	21,200	300	<5.92	0.077		
MW-05	6.5	7.5	Aquitard						<7.88	1.69
MW-05	11.8	12.8	Deep						<5.79	<0.15
MW-06	5	5.5	Shallow	26	17,800	257	<5.75	<0.075		
MW-06	7	7.5	Shallow	10.8	16,600	252	<0.586	0.083		
MW-06	6.7	7.7	Shallow						<6.00	<0.15
MW-06	8.5	8.9	Shallow	31.5	20,600	284	<0.712	0.326		
MW-06	9.3	10	Aquitard						<7.34	1.92
MW-06	12	13	Deep						<5.61	<0.15
MW-06	18.1	19.1	Deep							
MW-07	4.5	5	Shallow	48.2						
MW-07	6.1	7.1	Shallow						<5.75	<0.15
MW-07	6.5	7	Shallow	33.6	21,300	292	<5.99	0.237		
MW-10	3.5	4	Shallow	20.6	21,100	306	<5.29	0.294		
MW-10	6.5	7.5	Shallow							

Abbreviations:

bgs Below ground surface mg/kg Milligrams per kilogram

## Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report

Appendix D

Data Validation



# **Data Validation Summary**

Prepared by: Chell Black

**Date:** June 10, 2021

Project No.: Weyer-Mill E

Sample Event(s): RI Supplemental Soil, RI Supplemental Groundwater (Dry Season),

RI Supplemental Groundwater (Wet Season)

**Sample Delivery Group(s):** FA 2008301, FA 2008303, FA 2008384, FA 2009179, FA 2009193,

FA 2009198, FA 2009226, FA 2103037, FA 2103065, FA 2103081

Sample Media: Soil and Groundwater

A Compliance Screening (Stages 1 & 2A) data quality review was performed on data resulting from laboratory analysis by the following methods: USEPA 200.8, USEPA 300.0, USEPA 6020B, USEPA 8270SIM, USEPA 9060, NWTPH-Dx, NWPTH-Gx, and Standard Methods 2320B, 4500-S2-F, and 5310C. The analytical data were validated in accordance with the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 2017a) and *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA 2017b).

A total of 65 soil samples, 64 groundwater samples, and 3 quality control samples were submitted across three field events in 10 sample delivery groups, 2008301, 2008303, 2008384, 2009179, 2009193, 2009198, 2009226, 2103037, 210365 and 2103081, to Fremont Analytical for chemical analysis.

For samples analyzed outside of holding time, due to either the 48-hour method requirement, or requests for specific samples to be removed from archives and then analyzed, the laboratory flagged all impacted results "H", and this flag will be preserved as either "J" for detected results or "UJ" for non-detect results for data reporting and database storage.

For samples with potential blank contamination the laboratory flagged all impacted results "B", and this flag will be preserved as either "JB" for detected results or "UB" for non-detect results for data reporting and database storage.

For samples with initial or continuing calibration issues the laboratory flagged all impacted results "Q", and this flag will be preserved as either "J" for detected results or "UJ" for non-detect results for data reporting and database storage.

June 2022 Page 1 of 2

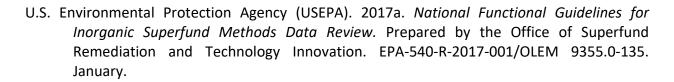
The surrogate, laboratory control sample (LCS), laboratory control sample duplicate (LCSD), matrix spike (MS), and matrix spike duplicate (MSD) recoveries, sample/sample duplicate, LCS/LCSD and MS/MSD relative percent differences (RPDs) were reviewed, and it was determined that no results would be qualified based only on these recoveries or RPDs as adequate accuracy and precisions for all the methods were demonstrated.

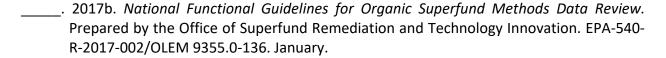
For samples that were run at multiple dilutions due to non-target analytes exceeding the limit of the detector, a single reportable result will be presented with the other result being flagged "DNR" (do not report). Detects will be reported in favor of non-detects; when both results are detected, the highest value will be reported, and when both results are non-detects the lowest reporting limit will be reported.

For total petroleum hydrocarbons, any notations related to what was observed by the laboratory on the chromatograms have been retained as notes for data reporting and database storage. In addition, oxidation notes in relation to sulfide have also been preserved.

Aside from the assignment of "DNR" qualifiers, no additional qualifiers were added to the analytical results based on the data quality review. Data are determined to be of acceptable quality for use as reported by the laboratory, with some laboratory qualifiers being updated to conform to the final qualifiers used for data table reporting and database storage.

#### **REFERENCES**





## Former Mill E/Koppers Facility

# Supplemental Upland Remedial Investigation Data Summary Report

**Appendix E Variance Requests** 



# <u>Water Resources Program</u> Variance Request- Minimum Standards for Well Construction

WAC173-160-106(1) allows you to request a variance from the Department of Ecology when strict compliance with state well construction standards is impractical. The variance request must propose comparable alternative specifications that will provide equal or greater human health and resource protection than the minimum standards. You must apply for a variance in writing and receive approval before constructing or decommissioning the well. (All fields must be completed.)

Requested by: Stratus (	Corporation		
Mailing Address: 36515	SW Laurelwood Rd	City: Gaston Stat	e: OR Zip: 97119
Daytime Phone: 503-851	1-8452	Date: 8/5/20	)20
Property Owner (if different	ent): MAP #2 LLC (Forme	erly Mill-E)	
	1/4 Section:		E or WWM
Tax Parcel Number: Parc	cel #29051600200500		
Well Address: None			
Well Driller/Company (if	known): Stratus Corpora	ation	
	ell Resource Protection		/ell
What construction standa WAC 173-160-451, Spec	rd cannot be met? cifically (d) Direct push we	lls shall not be constructed	d through more than
one water bearing forma	tion and the seal shall be	from the top of the	
sand pack to land surface	e.		
sources of contamination Stratus will be performing "Telesco	if setback variance is being oping" style drilling where we plan to	g requested.  drill down 12" into the confining laye	
	out 4.5" tooling down to TD (deepe	*	
After we plan to place an ex	panding bridge and a thin laye	r of 3/8" chips ontop of the brid	dge to protect the filter pack.
provided by the minimum After Bridge and chips we pl	lan to tremie grout (bentonite s	slurry) from Chips up to 3' BG	S then proceed to install our
- Flush monument set in Concrete	e. We are proposing this drilling me	inou because we want to protect t	The upper from the lower aquiler.
(Attach additional pages i regional office: Northwest Regional Office ATTN: Noel Philip 3190 160 <sup>th</sup> Avenue SE Bellevue, WA 98008	if necessary.) Complete an Southwest Regional Office ATTN: John Pearch PO Box 47775 Olympia, WA 98504	d return with your site map Eastern Regional Office ATTN: Mark Ader N 4601 Monroe Spokane, WA 99205	Central Regional Office ATTN: Avery Richardson 1250 W Alder St. Union Gap, WA 98903
425-649-7044 Fax: 425-649-7098	360-407-0297 Fax: 360-407-6305	509-329-3544 Fax: 509-329-3529	509-575-2639 Fax: 509-454-7830
nphi461@ecy.wa.gov	jope461@ecy.wa.gov	made461@ecy.wa.gov	aric461@ecy.wa.gov

From: Mark Jusayan

Sent: Monday, 3 May, 2021 3:33 PM

To: Nick Stratus Corporation

**Cc:** Lynn Grochala; Nathan Schachtman

Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Thanks, Nick. This email chain and the variance form should be fine for our purposes.

Note: I am currently working remotely, but still available by the office phone and extension or direct line listed in my signature.

### Mark Jusayan, LG

#### FLOYD | SNIDER

601 Union Street, Suite 600 | Seattle, WA 98101 | tel: 206.292.2078 ext. 2196 | direct: 206.805.2176 | fax: 206.682.7867

mark.jusayan@floydsnider.com | www.floydsnider.com

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From: Nick Stratus Corporation <ns@stratuscorp.net>

Sent: Monday, May 3, 2021 3:29 PM

To: Mark Jusayan < Mark. Jusayan@floydsnider.com>

Cc: Lynn Grochala < Lynn. Grochala@floydsnider.com >; Nathan Schachtman < Nathan. Schachtman@floydsnider.com >

**Subject:** RE: [EXTERNAL] Mill E Drilling Markout and Access

Mark,

Sad to see you are leaving, I went through all my chain of e-mails and that was the situation where I had to call Ecology on lunch the day we arrived and got verbal approval from Philip Noel based off my variance form but I never received the written approval from him.

Thanks, Nick



39515 SW Hartley Rd. Gaston, OR 97119 Nicholas Stroberger Project Supervisor

m: 503.851.8452 o: 503.985.7912 ns@stratuscorp.net

Environmental contracting: Drilling / Excavation / Construction / Vacuum Truck / Hydro Excavation / Remediation / Waste transportation-disposal / Stormwater

Please consider the environment before printing this e-mail

From: Mark Jusayan < Mark.Jusayan@floydsnider.com >

**Sent:** Monday, May 3, 2021 3:26 PM

**To:** Nick Stratus Corporation <ns@stratuscorp.net>

Cc: Lynn Grochala < Lynn. Grochala@floydsnider.com >; Nathan Schachtman < Nathan. Schachtman@floydsnider.com >

Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Thanks, Nick.

In case you don't get around to it, my last day at Floyd|Snider will be this Thursday May 6<sup>th</sup>. Please send over that email to Nathan Schachtman (cc'd in this email) if you find it. It was good working with you!

Cheers

Note: I am currently working remotely, but still available by the office phone and extension or direct line listed in my signature.

### Mark Jusayan, LG

### FLOYD | SNIDER

601 Union Street, Suite 600 | Seattle, WA 98101 | tel: 206.292.2078 ext. 2196 | direct: 206.805.2176 | fax: 206.682.7867

mark.jusayan@floydsnider.com | www.floydsnider.com

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**From:** Nick Stratus Corporation < <u>ns@stratuscorp.net</u>>

**Sent:** Monday, May 3, 2021 2:59 PM

**To:** Mark Jusayan < <u>Mark.Jusayan@floydsnider.com</u>>

 $\textbf{Cc:} \ Lynn \ Grochala < \underline{Lynn.Grochala@floydsnider.com} >; \ Nathan \ Schachtman < \underline{Nathan.Schachtman@floydsnider.com} >; \ Nathan \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman \ Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman \ Schachtman \ Schachtman < \underline{Nathan.Schachtman \ Schachtman 
**Subject:** RE: [EXTERNAL] Mill E Drilling Markout and Access

Mark,

Yes here is the Variance form I sent onto Ecology, I will scour through my e-mails to see if he ever sent back a signed copy or not.

Thanks, Nick



 $39515~\mathrm{SW}$  Hartley Rd. Gaston, OR 97119

Nicholas Stroberger Project Supervisor m: 503.851.8452 o: 503.985.7912

ns@stratuscorp.net

Environmental contracting: Drilling / Excavation / Construction / Vacuum Truck / Hydro Excavation / Remediation / Waste transportation-disposal / Stormwater

Please consider the environment before printing this e-mail ightharpoonup

From: Mark Jusayan < <u>Mark.Jusayan@floydsnider.com</u>>

**Sent:** Monday, May 3, 2021 9:58 AM

**To:** Nick Stratus Corporation < <a href="mailto:ns@stratuscorp.net">ns@stratuscorp.net</a>>

Cc: Lynn Grochala < Lynn.Grochala@floydsnider.com>; Nathan Schachtman < Nathan.Schachtman@floydsnider.com>

Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Hi Nick,

Now that we have completed the wet season sampling are in the reporting phase for the Mill E SRI, I wanted to check in with you regarding your email below. You mention pre-approval and the proposal to Ecology to use 3/8" chips above the foam bridge, do you have documentation of Ecology accepting this proposal? If so, we want to capture this in the deviations section of our report. If this was memorialized in an email with Ecology or some sort of variance form, could you please forward it to us?

Thanks,

Note: I am currently working remotely, but still available by the office phone and extension or direct line listed in my signature.

#### Mark Jusayan, LG

### FLOYD | SNIDER

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mark.jusayan@floydsnider.com | www.floydsnider.com

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**From:** Nick Stratus Corporation < ns@stratuscorp.net >

Sent: Wednesday, August 5, 2020 12:30 PM

To: Mark Jusayan < <a href="mark-Jusayan@floydsnider.com">Mark.Jusayan@floydsnider.com</a>; Lynn Grochala < <a href="mark-Jusayan@floydsnider.com">Lynn Grochala@floydsnider.com</a>; Wiseman, Carol < <a href="mark-Jusayan@floydsnider.com">carol.wiseman@weyerhaeuser.com</a>; Lynn Grochala@floydsnider.com</a>;

'Randy Pratt' < rpratt@gsiws.com>

Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Mark,

Thanks for bringing this up, I have been working with Ecology on installing and sealing method pre-approved by them to allow us to ensure protection of the screen. The WAC specifically states Granular Bentonite (casing seal) which is not allowed because it hydrates before it can meet its total depth. We proposed to Ecology (if needed) to allow for 3/8" chips placed ontop of the foam bridge to ensure screened interval protection. But yes all material placed through the confining layer and above is Aquaguard Bentonite Grout.

Thanks, Nick



39515 SW Hartley Rd. Gaston, OR 97119

Nicholas Stroberger Project Supervisor m: 503.851.8452 o: 503.985.7912 f: 503.985.1953

<u>ns@stratuscorp.net</u>
Environmental contracting: Drilling / Excavation / Construction / Remediation / Waste transporation-disposal / Demolition

Please consider the environment before printing this e-mail  $rac{1}{2}$ 

From: Mark Jusayan < <a href="mark.Jusayan@floydsnider.com">Mark.Jusayan@floydsnider.com</a>>

Sent: Wednesday, August 5, 2020 11:34 AM

To: Lynn Grochala <<a href="mailto:Lynn.Grochala@floydsnider.com">Lynn.Grochala@floydsnider.com</a>; Wiseman, Carol <<a href="mailto:carol.wiseman@weyerhaeuser.com">Carol.wiseman@weyerhaeuser.com</a>; 'Randy Pratt' <<a href="mailto:rpratt@gsiws.com">rpratt@gsiws.com</a>; Nick Stratus</a>; Carol.wiseman@weyerhaeuser.com</a>; 'Randy Pratt' <<a href="mailto:rpratt@gsiws.com">rpratt@gsiws.com</a>; Nick Stratus</a>

Corporation < ns@stratuscorp.net >

Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Hi All,

Just chiming in here that per WAC 173-160-451, Pre-packed wells require prepack or slurry sealant below static water level, meaning that attempting to feed bentonite chips downhole from the surface to seal below the water table is prohibited for the pre-packed wells in the lower sand aquifer.

Thanks,

Note: I am currently working remotely, but still available by the office phone and extension or direct line listed in my signature.

Mark Jusayan, LG FLOYD | SNIDER

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From: Lynn Grochala < Lynn. Grochala@floydsnider.com>

Sent: Wednesday, August 5, 2020 11:25 AM

To: Wiseman, Carol < <a href="mailto:carol.wiseman@weyerhaeuser.com">carol.wiseman@weyerhaeuser.com</a>; 'Randy Pratt' < <a href="mailto:rpratt@gsiws.com">rpratt@gsiws.com</a>; nick stroberger < <a href="mailto:ns@stratuscorp.net">ns@stratuscorp.net</a>

Cc: Mark Jusayan < <a href="Mark.Jusayan@floydsnider.com">Mark.Jusayan@floydsnider.com</a> Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Sounds good, thanks!

Also, Mark looked at the aquitard depth across the site and it looks like there is only one location where we may be able to use a 5 foot pre-pack in the upper aquifer, so our preference is to build those wells using standard well construction materials. The screens will likely be 3-4 feet instead of 5 to ensure a sufficient bentonite seal, but will depend on what we see in the field. We are ok with using 10-foot pre-packs in the lower aquifer wells.

Here is the estimated screen lengths/depths based on what we know. Of course, this will vary depending on actual observations during drilling.

Drilling Location	Туре	Location	Target Depth	Estimated Screen Zone
MW-01S	Upper Aquifer Well	Shoreline	5-10 feet bgs	4-7 feet bgs
MW-01D	Lower Aquifer Well	Shoreline	15-25 feet bgs	12-22 feet bgs
MW-02S	Upper Aquifer Well	Shoreline	5-10 feet bgs	5-8 feet bgs
MW-02D	Lower Aquifer Well	Shoreline	15-25 feet bgs	13-23 feet bgs
MW-03S	Upper Aquifer Well	Shoreline	5-10 feet bgs	5-8 feet bgs
MW-03D	Lower Aquifer Well	Shoreline	15-25 feet bgs	13-23 feet bgs
MW-04S	Upper Aquifer Well	Shoreline	5-10 feet bgs	4-7 feet bgs
MW-04D	Lower Aquifer Well	Shoreline	15-25 feet bgs	13-23 feet bgs
MW-05S	Upper Aquifer Well	Shoreline	5-10 feet bgs	4-7 feet bgs
MW-05D	Lower Aquifer Well	Shoreline	15-25 feet bgs	13-23 feet bgs
MW-06S	Upper Aquifer Well	Shoreline	5-10 feet bgs	4-7 feet bgs
MW-06D	Lower Aquifer Well	Shoreline	15-25 feet bgs	11-21 feet bgs
MW-07S	Upper Aquifer Well	Central, along pipe	5-10 feet bgs	4-7 feet bgs
MW-07D	Lower Aquifer Well	Central, along pipe	15-25 feet bgs	13-23 feet bgs
MW-08S	Upper Aquifer Well	Upgradient, along pipe	5-10 feet bgs	4-7 feet bgs
MW-08D	Lower Aquifer Well	Upgradient, along pipe	15-25 feet bgs	13-23 feet bgs
MW-09S	Upper Aquifer Well	North of wall	5-10 feet bgs	5-10 feet bgs
MW-09D	Lower Aquifer Well	North of wall	15-25 feet bgs	19-29 feet bgs
MW-10D	Lower Aquifer Well	Adjacent to PZ-1B	15-25 feet bgs	14-24 feet bgs
SB-100	Soil Boring	NW of wall	5-10 feet bgs	NA
SB-101	Soil Boring	S of wall, north of pipe	5-10 feet bgs	NA
SB-102	Soil Boring	S of wall, north of pipe	5-10 feet bgs	NA
SB-103	Soil Boring	S of wall, north of pipe	5-10 feet bgs	NA
SB-104	Soil Boring	S of pipe	5-10 feet bgs	NA

Highlighted estimates of screen zone have limited data to estimate the screened interval, either with no nearby borings or monitoring wells or where the upper silt thickness is unknown.

**From:** Wiseman, Carol < <u>Carol.Wiseman@weyerhaeuser.com</u>>

Sent: Wednesday, August 5, 2020 11:00 AM

**To:** Lynn Grochala < Lynn.Grochala@floydsnider.com >; 'Randy Pratt' < rpratt@gsiws.com >; nick stroberger < ns@stratuscorp.net >

Cc: Mark Jusayan < Mark.Jusayan@floydsnider.com > Subject: RE: [EXTERNAL] Mill E Drilling Markout and Access

Thanks Lynn, excellent field reconnaissance! I have contacted Erik, but no response – I'll email him again and see if he will respond this time, otherwise we may have to move the location inside PT property. I have also notified Sandra Matthews of our plans to mobilize in August and the minor changes to the plan – no response from her, either!

I'll ask Sandy if there is a contact for Amazon we could coordinate with so we can give them some heads up before we need access to the cap. Carol

From: Lynn Grochala < Lynn.Grochala@floydsnider.com >

**Sent:** Tuesday, August 04, 2020 4:29 PM

**To:** Wiseman, Carol < <a href="mailto:carol.Wiseman@weyerhaeuser.com">"> ; 'Randy Pratt' < <a href="mailto:rpratt@gsiws.com">"rpratt@gsiws.com">"> ; nick stroberger < <a href="mailto:ns.com">ns.com</a> ; 'Randy Pratt' < <a href="mailto:rpratt@gsiws.com">rpratt@gsiws.com</a> ; nick stroberger < <a href="mailto:ns.com">ns.com</a> ; nick str

**Cc:** Mark Jusayan < <u>Mark.Jusayan@floydsnider.com</u>> **Subject:** [EXTERNAL] Mill E Drilling Markout and Access

Hey there, Layni and Mark marked out the well and boring locations yesterday afternoon with Dave and Tom from Pacific Topsoil. There are a lot of vehicles and trailers parked on the cap and a few houses/trailers located in the field (luckily none are in the way). There will need to be some coordination with Amazon regarding shoreline access through the cap area to make sure they keep access areas clear for the rig. I think starting on the south end is good b/c it provides opportunity to coordinate with them real time. We'll need to get a contact from Sandy/Dave to facilitate communications and access. We'll also need to check with them regarding work hours and when the gate is open/unlocked.

- Overall, the majority of the locations are readily accessible with a bit of brush clearing, which PT will do.
- For shoreline well pairs 2 and 3, the best access will be from the cap, but there is a stormwater swale along the edge of the cap so the rig will likely need some support to traverse over or sit on. The PT folks offered to provide wood planking or dunnage so the rig can get over the ditch. There is only about 6 feet of relatively flat space before a ore steep drop off to the river.
- For the shoreline pair 1S/1D, this location is off PT property and located along a new pedestrian pathway. Due to steep slope from the cap, the rig will need to access via the pathway (Carol, have you contacted Erik at the Port?). There are bollards adjacent to well pair 9 that prohibit vehicular traffic along the path. The rig could easily access the proposed area if the bollards are temporarily removed (they are removable). Carol, if the Port does not

- allow well installation on their property, we could move the pair inside the north corner of the PT property (not fully downgradient of 3B/20D). If moved, access would be the same as for pairs 2 and 3.
- Location 10D might be problematic. There is a truck scale in this location and Dave said there is a lot of subsurface riprap. I am hoping we can get right next to PZ-1B, but we'll have to be prepared for a few attempts if needed.

I think that's all we have to report back. Let us know if you have any questions. Lynn

### **Lynn Grochala**

# FLOYDISNIDER

601 Union Street, Suite 600 Seattle, WA 98101 P: 206.292.2078 F: 206.682.7867 Lynn.Grochala@floydsnider.com www.floydsnider.com

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nphi461@ecy.wa.gov

# Water Resources Program Variance Request- Minimum Standards for Well Construction

WAC173-160-106(1) allows you to request a variance from the Department of Ecology when strict compliance with state well construction standards is impractical. The variance request must propose comparable alternative specifications that will provide equal or greater human health and resource protection than the minimum standards. You must apply for a variance in writing and receive approval before constructing or decommissioning the well. (All fields must be completed.)

Requested by: Lynn Gr	ochala, Floyd Snider		
Mailing Address: 601 U	nion St, STE 600	City: Seattle St	ate: WA Zip: 98101
Daytime Phone: 206-292	2-2078	Date: Aug	19, 2020
Property Owner (if different	ent): MAP #2, LLC		
Site Location: NW 1/4	1/4 Section: 16	Township: 29N Range	<u>5E</u>
Tax Parcel Number: 290			
	e Rd and 8th St (parcel h		, Everett
Well Driller/Company (if	Nick Stroberge	r, Stratus Corporation	
	ell Resource Protectio		Well
What construction standa WAC 173-160-420(12)	rd cannot be met?		
Describe the reason why	standard cannot be met. Ir	aluda sita man and distar	nces from all known potentia
sources of contamination	if setback variance is bein	g requested.	ng the property perimeter fence line.
The property is used for vehicle p	arking on the asphalt cap, and there	e is no vehicular traffic in the area	s of the proposed monitoring wells.
See attached map for propo	sed wells, variance is request	ed for 16 of the 19 proposed	wells (all but 7S/D and 10D).
provided by the minimum	onstruction method that was a standard.  casing (minimum 3-ft above ground		
and a water tight gripper cap	will be placed on each well. The	ne protective steel casing will	be painted yellow for visibility.
(Attach additional pages i regional office:	if necessary.) Complete an	d return with your site m	ap to the appropriate
Northwest Regional Office ATTN: Noel Philip 3190 160 <sup>th</sup> Avenue SE Bellevue, WA 98008 425-649-7044 Fax: 425-649-7098	Southwest Regional Office ATTN: John Pearch PO Box 47775 Olympia, WA 98504 360-407-0297 Fax: 360-407-6305	Eastern Regional Office ATTN: Mark Ader N 4601 Monroe Spokane, WA 99205 509-329-3544 Fax: 509-329-3529	Central Regional Office ATTN: Avery Richardson 1250 W Alder St. Union Gap, WA 98903 509-575-2639 Fax: 509-454-7830

made461@ecy.wa.gov

aric461@ecy.wa.gov

jope461@ecy.wa.gov

From: Philip, Noel (ECY) < NPHI461@ECY.WA.GOV>

Sent: Thursday, 20 August, 2020 9:32 AM

Lynn Grochala To:

RE: Variance request form Subject:

Those pics are great. Thanks, Lynn. This "verbal" approval of the variance to not construct bollards around the wells. Please remember the requirement to install a protective, locking casing on each well remains.

Noel

Noel S. Philip, LHG Well Construction Coordinator Water Resources Program Washington State Department of Ecology Northwest Regional Office 3190 160th Ave. SE Bellevue, WA 98008 (425) 649-7044 office (425) 200-8951 mobile nphi461@ecy.wa.gov Fax: (425) 649-7098

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From: Lynn Grochala [mailto:Lynn.Grochala@floydsnider.com]

Sent: Thursday, August 20, 2020 8:46 AM To: Philip, Noel (ECY) < NPHI461@ECY.WA.GOV>

Cc: 'nick stroberger' <ns@stratuscorp.net>; Mark Jusayan <Mark.Jusayan@floydsnider.com>

Subject: RE: Variance request form

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Here is a view from the other side for reference (there is a pedestrian pathway on the other side).



From: Lynn Grochala

Sent: Thursday, August 20, 2020 8:41 AM To: 'Philip, Noel (ECY)' < <a href="mailto:NPHI461@ECY.WA.GOV">NPHI461@ECY.WA.GOV</a>> **Cc:** nick stroberger <<u>ns@stratuscorp.net</u>>; Mark Jusayan <<u>Mark.Jusayan@floydsnider.com</u>>

Subject: RE: Variance request form

Good morning Noel, the 9S/D pair will be installed in between the two fences where the stake with white paint is in the picture below. Let me know if you need anything else. Thanks!



From: Philip, Noel (ECY) < NPHI461@ECY.WA.GOV > Sent: Thursday, August 20, 2020 7:49 AM

To: Lynn Grochala < Lynn.Grochala@floydsnider.com >

**Cc:** nick stroberger <<u>ns@stratuscorp.net</u>>; Mark Jusayan <<u>Mark.Jusayan@floydsnider.com</u>>

Subject: RE: Variance request form

Hi, Lynn. I will need further evidence the following wells are not subject to vehicle traffic in order to approve a "no-bollards" installation:

MW-09S MW-09D

Otherwise, the rest look safe from cars, and no bollards are required.

Every well, regardless of location, must be fitted with a protective casing and locking cap.

Noel

Noel S. Philip, LHG Well Construction Coordinator Water Resources Program Washington State Department of Ecology Northwest Regional Office 3190 160th Ave. SE Bellevue, WA 98008 (425) 649-7044 office (425) 200-8951 mobile nphi461@ecy.wa.gov

Electronic mail is subject to public record requests.



Fax: (425) 649-7098

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From: Lynn Grochala [mailto:Lynn.Grochala@floydsnider.com]

Sent: Wednesday, August 19, 2020 2:46 PM

To: Philip, Noel (ECY) < NPHI461@ECY.WA.GOV>

Cc: nick stroberger <<u>ns@stratuscorp.net</u>>; Mark Jusayan <<u>Mark.Jusayan@floydsnider.com</u>>

Subject: RE: Variance request form

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Thanks Noel! I appreciate it!

Per our discussion, see attached completed form and site map with proposed well locations. The drillers are on-site now and the work will be completed by the end of next week. I copied both the driller Nick Stroberger of Stratus and our field geologist Mark Jusayan on this email.

Please let me know if you have any questions or if you need anything else to process this variance request.

Thanks! Have a great day! Lynn

### **Lynn Grochala**

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601 Union Street, Suite 600 Seattle, WA 98101 P: 206.292.2078 F: 206.682.7867 Lynn.Grochala@floydsnider.com www.floydsnider.com

A Certified B Corporation

From: Philip, Noel (ECY) < <u>NPHI461@ECY.WA.GOV</u>> Sent: Wednesday, August 19, 2020 1:58 PM

To: Lynn Grochala < Lynn.Grochala@floydsnider.com >

Subject: RE: Variance request form

https://fortress.wa.gov/ecy/publications/SummaryPages/ECY070299.html

Noel S. Philip, LHG
Well Construction Coordinator
Water Resources Program
Washington State Department of Ecology
Northwest Regional Office
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Bellevue, WA 98008
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